SIBERIA: FROZEN IN TIME

Smithsonian

SEPTEMBER 2005

BACK FROM THE BRINK

10 ENDANGERED SPECIES MAKE A COMEBACK

THE BATTLE THAT STOPPED THE ROMAN EMPIRE

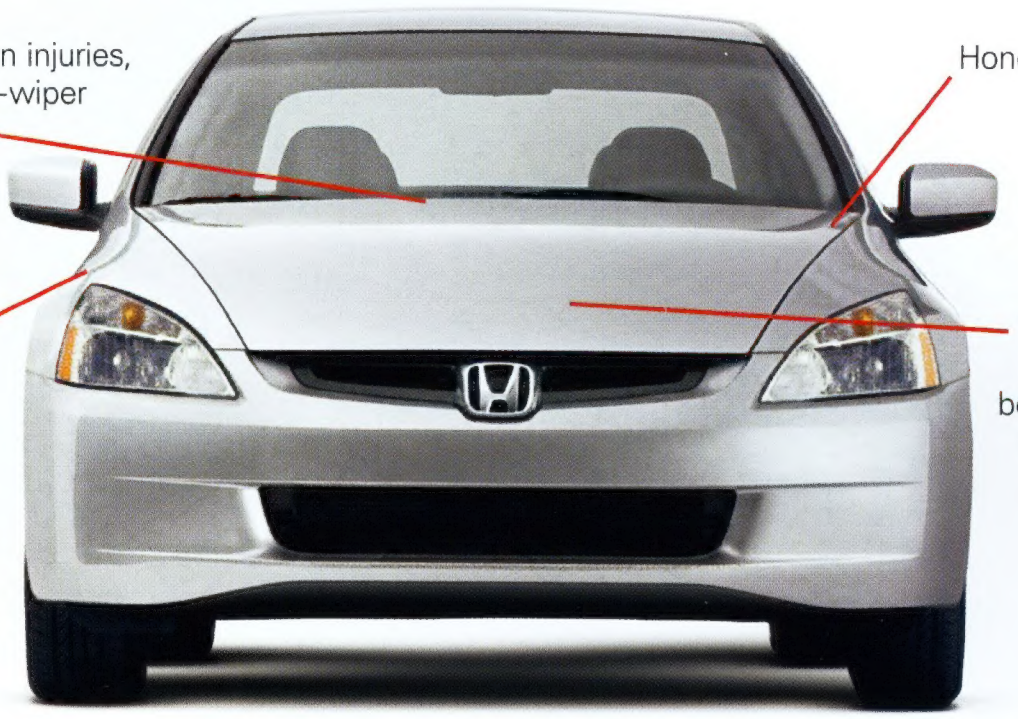
TEACHING SCHOOL KIDS ABOUT DISCRIMINATION

SLAVERY IN THE SAHARA–TODAY

A GALLERY OF JAZZ GREATS

A REPORTER GOES TO JAIL TO PROTECT HIS SOURCES

Every car company is con
inside its cars. But what a


To help reduce pedestrian injuries, the modified windshield-wiper system helps absorb energy in the event of an accident.
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Created by Honda engineers, POLAR II is the most advanced pedestrian test dummy, and simulates the kinematics of the human body.

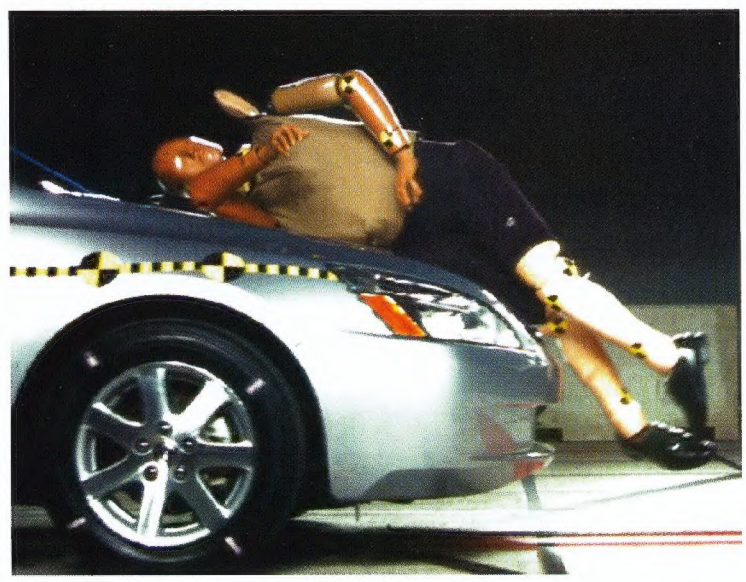
safety.honda.com

Based on *Traffic Safety Facts 2003* from NHTSA. 2005 Accord EX Sedan shown. ©2005 American Honda Motor Co., Inc.

cerned about the people
bout the people outside?

pedestrian test dummy with sensors that help analyze the types of injuries that could be sustained in an accident.

Our pioneering research has led to the development of a number of pedestrian-protection features, including injury-reducing designs that minimize direct contact with the most rigid part of the vehicle. More than 2 million U.S. Honda and Acura vehicles on the road today have this equipment. Honda is dedicated to advancing our safety technologies, with our goal of "Safety for Everyone" leading the way.



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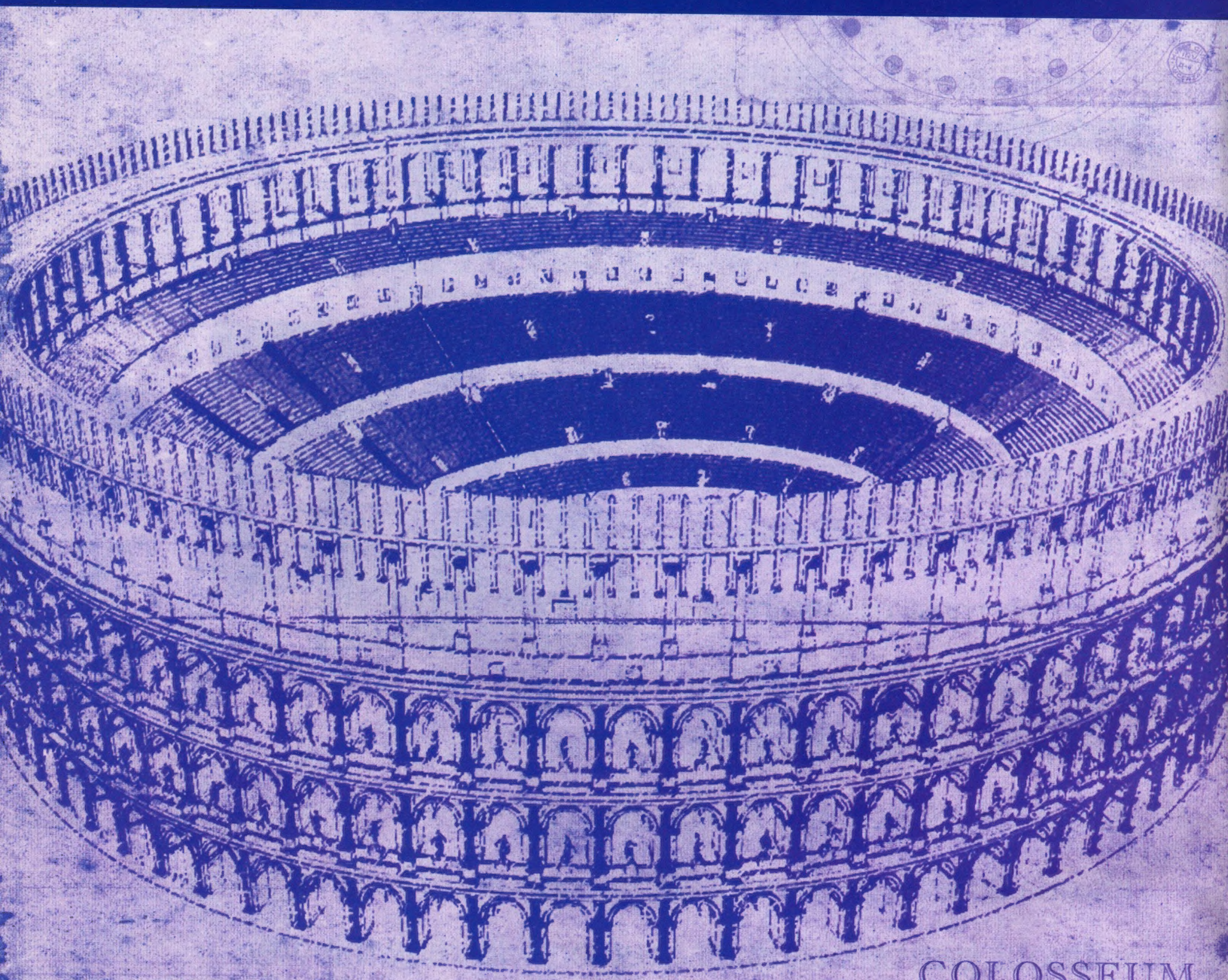

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SEPTEMBER 2005 VOLUME 36, NUMBER 6

FEATURES

54 BACK FROM THE BRINK

An endangered species story with happy endings? From soaring bald eagle populations to rebounding grizzly bears, there have been more successes than you might expect

BY DANIEL GLICK

64 BORN INTO BONDAGE

Across Saharan Africa, tens of thousands of people are trapped in cruel servitude. Our reporter documents slavery in Niger, whose government denies it exists there

TEXT AND PHOTOGRAPHS BY PAUL RAFFAELE

74 THE AMBUSH THAT CHANGED HISTORY

Searching for a few ancient coins, an amateur archaeologist stumbles upon the long-lost battlefield where crafty Teutonic tribesmen stopped the advance of the Roman Empire in A.D. 9

BY FERGUS M. BORDEWICH

82 LESSON OF A LIFETIME

Teacher Jane Elliott's unorthodox exercise to instruct her third graders in the consequences of racism still divides an Iowa town—and even her former students—nearly 40 years later

BY STEPHEN G. BLOOM / PHOTOGRAPHS BY LAYNE KENNEDY

94 JAZZ MAN

If you're looking for a photograph of a jazz musician, from the famous to the forgotten, Frank Driggs—with over 78,000 images in his collection—is the cat to see

BY JERRY ADLER

102 NAVIGATING SIBERIA

On a grueling 2,300-mile journey down Russia's Lena River, one of the world's great unspoiled waterways, the author assesses the nation's brutal past—and its uncertain future

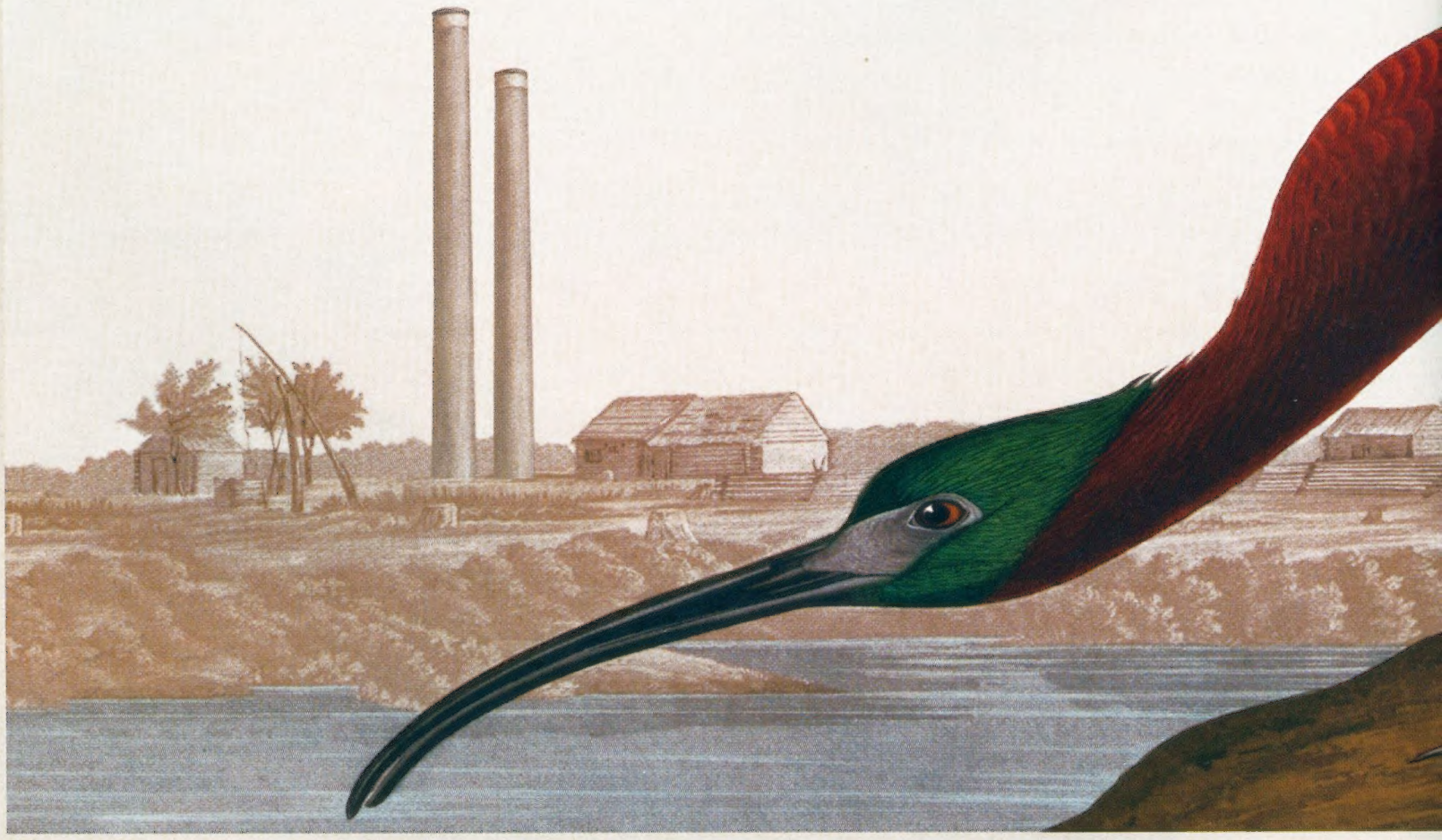
TEXT AND PHOTOGRAPHS BY JEFFREY TAYLER

Soon a middle-aged man appears with a naked child by his side. His face clouds when he sees us. "My master said he'll beat me if I talk to strangers," he says. He warns the others not to tell.

—"BORN INTO BONDAGE," PAGE 64

THIS PAGE: In Niger (a man and his son on a mission to draw water from a communal well) slavery is passed from one generation to the next. Photograph by Paul Raffaele.

COVER: Takany (with her great-grandson) says she was given as a present to her owner when she was an infant. Photograph by Paul Raffaele. (Inset photograph by Shin Yoshino / Minden Pictures.)



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DEPARTMENTS

21 INDELIBLE IMAGES TIES THAT BIND

Waiting in the White House wings before a signing of the Oslo Accords in 1995, President Clinton and Middle East leaders grapple with knotty issues **BY JOHN F. HARRIS**

24 THE OBJECT AT HAND JOHN LENNON'S FIRST ALBUM

With the purchase of the rock legend's stamp collection, the National Postal Service hopes to woo new fans to philately
BY OWEN EDWARDS

30 PHENOMENA & CURIOSITIES FUEL FOR THOUGHT

For many motorists, biodiesel—a.k.a. cooking oil—has become the propellant of choice **BY FRANCES CERRA WHITTELSEY**

42 DIGS THE BEST OFFENSE

On a hill above the Ohio River in Kentucky, archaeologists and volunteers search for remnants of a pivotal Civil War battery
BY ANDREW BERG

112 PRESENCE OF MIND ON NOT NAMING NAMES

A former *New York Times* reporter reflects on his decision to go to jail in 1978 rather than disclose confidential sources
BY MYRON FARBER

10 EDITOR'S NOTE FORMATIVE YEARS

14 FROM THE SECRETARY NEW FACES

16 LETTERS

18 THE YEAR WE WERE BORN

35 LEWIS AND CLARK COLD AND HUNGRY

40 JUST LOOKING IN THE HOT SEAT

46 AROUND THE MALL

52 THIS MONTH IN HISTORY

120 THE LAST PAGE GEEK TO ME

"You couldn't live like that today," Driggs says, lamenting the sharp decline in glamour attached to jazz musicians. A rock musician might approximate that kind of life, but he would have to listen to his own music, which Driggs considers an unbearable price to pay.

—"JAZZ MAN," PAGE 94

THIS PAGE: Jazz reference books routinely rely on Driggs' vast collection (a 1959 portrait of trumpeter Dizzy Gillespie taken at Hunter College, in New York City). Herb Snitzer/ Frank Driggs Collection.

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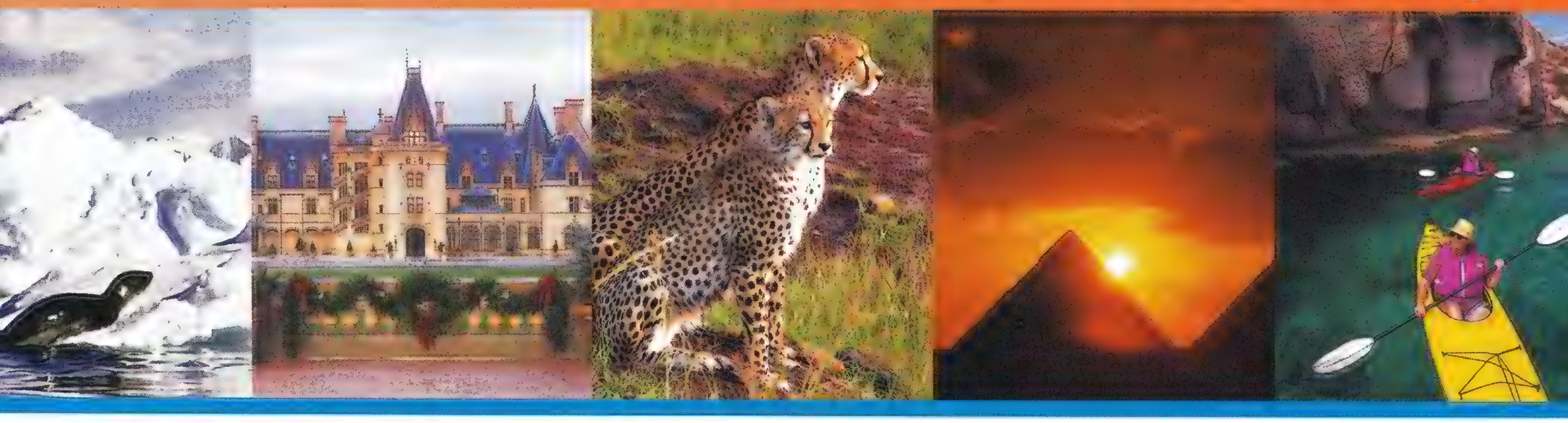

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EDITOR'S NOTE

FORMATIVE YEARS

EARLY LESSONS LAST A LIFETIME

BY CAREY WINFREY

DANIEL GLICK FELL IN LOVE WITH ANIMALS when he lived in Uganda for a year beginning in 1967. He was 12 and his mother was conducting dissertation research on languages there. "We were able to visit many of the game parks of East Africa before the political turmoil of the 1970s and '80s did damage to them," he says. "I was able to see things—black rhinos, elephants and cheetahs—that, sadly, are now threatened or endangered."

Glick and kids: Passionate individuals give him hope.

The intervening decades have only darkened Glick's view of the prospects for wildlife—so much so that four years ago he took his then 13-year-old son and 9-year-old daughter on a five-month trip around the world to see animals before they disappear. (The trip was recounted in his book *Monkey Dancing: A Father, Two Kids, and a Journey to the Ends of the Earth*.)

But reporting our story on species that have returned from the brink of extinction ("Back from the Brink," page 54) has helped renew his optimism. "It was a remarkable experience to bear witness to these species' recovery," Glick says. "What gives me hope is that there is still a cadre of incredibly dedicated and passionate individuals, like turtle researcher George Balazs and his students, who are trying to preserve all the threads of our planet's intricate web of life."

JANE ELLIOTT, Stephen G. Bloom will tell you, is "a hugely complicated person. People seem to love her—or hate her. In all my years as a journalist, I've never come across anyone about whom opinions varied so radically." Elliott is the Iowa schoolteacher who, after the assassination of Martin Luther King Jr., devised a classroom exercise about discrimination that is still widely taught, and widely castigated, around the world. "Many of her former students view Elliott as a genuine saint," says Bloom, author of *Postville: A Clash of Cultures in Heartland America*, who wrote our story about the surprising impact of her exercise ("Lesson of a Lifetime," page 82). "Others look at her as a wicked egomaniac. After I tracked down a [school] principal who supervised Elliott, he hung up on me when I asked him to assess her contribution to education."

Over six months, Bloom interviewed more than 50 of Elliott's former students. "What did they say?" Elliott asked him. "Are they angry with me? Did the experiment change them? Did it make them better people? Oh, I hope so."

THE RULES for our third annual photo contest, entries for which are due by noon, January 5, 2006, have changed slightly. Check them out at www.smithsonianmag.com. Or write to Photo Contest, SMITHSONIAN magazine, MRC 951A, P.O. Box 37012, Washington, D.C. 20013-7012 for a printed copy.

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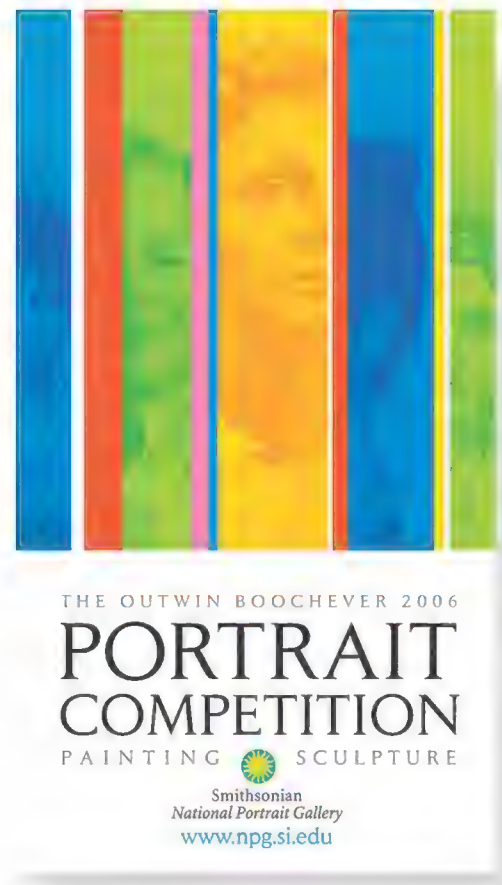
Artists, emerging and renowned alike, will vie to display their works in the National Portrait Gallery when it reopens next July

PORTRAITS can reveal to us what is most singular and significant about a person merely by inviting us to look closely at the individual's unique face, form and body. These details, and the settings and the clothes worn by the subjects, can offer wonderfully engaging biographies—the stories of lives, set down not in words and paragraphs but with paint, pencil, stone or bronze. The stories change, of course, as people and the times change, which is why the curators and other staff at the National Portrait Gallery (NPG) are right now looking for new stories, about new faces, and new artists who can contribute to the gallery's widely esteemed collection.

In June, the NPG began accepting entries to its Outwin Boochever Portrait Competition, the first of its kind in the United States. Artists from around the country and all walks of life, emerging and renowned professionals alike, will vie for awards that include significant cash prizes and, perhaps more important to the artists, the opportunity to display their work in the gallery's lead exhibition when the NPG reopens, once ongoing renovations are complete, in July 2006. Furthermore, the winning artist will receive a commission to portray a remarkable living American; that portrait will become part of the NPG's permanent collection. (On-line entries can be submitted until September 6; see the gallery's Web site, www.npg.si.edu, for details.)



The Outwin Boochever contest: First of its kind in the U.S.

The NPG's search for fine portraits by unknown and up-and-coming artists was made possible by a generous gift from Virginia Outwin Boochever, who for nearly 20 years volunteered as a docent at the gallery. Mrs. Boochever not only appreciates the special beauty of fine portraiture, she also understands its real historical value and lasting cultural impact. As a result, she wanted to find a way to encourage the art of portraiture in this country and draw attention to the way portraits preserve the history of the United States. The triennial competition she has endowed will guarantee that future generations can share her appreciation. While the first competition focuses on painted and sculpted portraits, future contests will invite artists to contribute drawings and watercolors as well as photographs, films and even digital and electronic works.

This year's inaugural Outwin Boochever competition highlights the important roles of the NPG. The gallery keeps and collects the best portraits of our country's leading historical and modern figures, from politicians and businesspeople to scientists and artists. Visitors can see our national history as told, indirectly and subtly, through human faces; the gallery's rooms are like many exciting chapters in our unfolding and ever-evolving national drama. But portraiture is not just a record of our shared past, a series of representations showing, for example, how a Civil War general stood or how people through the years dressed. As we develop, new portraits must tell the latest stories. In the coming years, the gallery will continue to promote portraiture as a vibrant form of expression and will support talented and creative younger artists.

To start, the NPG will begin a long-term collaboration with artists to commission new portraits of living Americans. Portraitmakers, whether working in oils or painting in tiny pixels on a computer monitor, embark on nothing less than a quest to capture in an image the very essence of an individual. As they work, the artists are also telling us about themselves and their unique ways of seeing. We can all look forward to experiencing the variety of vision that the Outwin Boochever contestants will bring to the Smithsonian.

Lawrence M. Small
SECRETARY OF THE SMITHSONIAN INSTITUTION

JEFF TINSLEY / S.I.; SMITHSONIAN NATIONAL PORTRAIT GALLERY

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LETTERS

Readers respond to the July issue:

DUE DILIGENCE

AS RESIDENTS OF a community close to Morris Island, in South Carolina ("What Price Glory?"), we are highly aware of the dangers concerning construction there. Development along the South Carolina coast has often been allowed to flourish without restraint, allowing degradation of the fragile ecology. For the sake of the future generations of people—and the shrimp, crabs and fish that will feed them—let's preserve these environments while they still can be saved.

MICHAEL DIETRICH
FOLLY BEACH, SOUTH CAROLINA

I CRINGED when I came across the words: the 54th Massachusetts "was the first African-American unit recruited in the North." Not that the 54th does not deserve its accolades, but the First Kansas Colored Infantry was ahead of them in many ways. Raised by Kansas in the summer of 1862 before the federal government wanted black troops, part of the regiment saw action at Island Mound, in Bates County, Missouri, on October 29 of that year. They were federalized on January 13, 1863, thirteen days before authorization was given to raise the 54th. The numbers involved in the Civil War in the Trans-Mississippi West may not have been as great as in the east, but it was no less bloody, and the First Kansas Colored Infantry deserves its due credit.

BLAIR D. TARR
MUSEUM CURATOR, KANSAS STATE HISTORICAL SOCIETY
TOPEKA, KANSAS

APPRAISING SYRIA

IN STEPHEN GLAIN'S "Syria at a Crossroads," Hezbollah is described as a militant organization that "from the 1970s . . . waged a vicious and ultimately successful guerrilla war against the Israeli occupation of Lebanon." The U.S. State Department, the EU and the UN define Hezbollah as a terrorist organization. Founded in 1982, not the '70s, it is responsible for blowing up the U.S. Marine barracks and the American Embassy in Beirut, and receives financial and military support from the clerics in Iran. Israel was never interested in occupying Lebanon; it was protecting its northern borders and the Christians in southern Lebanon from extremist Muslim terrorists.

JEANETTE FRIEDMAN
EDITOR, *TOGETHER*
NEW MILFORD, NEW JERSEY

YOUR EXCELLENT article brings intelligence, depth and clarity to an important country and adds to the understanding of an entire region. It is sadly infrequent that American media present such balanced and informative writing on the Middle East. These qualities are more needed now than ever before.

ROBERT J. BAKER
LOS ANGELES, CALIFORNIA

GAY PRIDE

IT STRAINS credulity that Owen Edwards' "Going for the Gold," about the Village People and their impact on the disco scene of the '70s and '80s, did not have even one reference to the gay community. The Village People would not have been anything more than "an inside joke with little appeal beyond Lower Manhattan" had gays not adopted the group as a community icon and propelled them into the larger world of disco fame.

DOUG FROMAN
PORTLAND, OREGON

Edwards responds:
I plead guilty. As someone who spent some years living in Greenwich Village and now resides in San Francisco, I tend not to see the gay community as a group separate from the straight world. Clearly, the gay audience had a major effect on the popularity of the Village People, and perhaps I erred in thinking that was no longer central to the story, which was occasioned by band member Felipe Rose's donation of the gold record "Y.M.C.A." to the National Museum of the American Indian.

NO DUH

IN "TOCQUEVILLE'S America," Clell Bryant writes that Tocqueville's last name, when standing alone, should appear without the "de" because he was a nobleman, whereas the "de" is kept for the "lower-born" de Gaulle. But the inclusion or omission of the "de" has nothing to do with high or low birth, rather with the number of syllables in the name. Monosyllabic names, or names with mute second syllables, or names beginning with a vowel or a mute "h," always retain the "de" or "d'," even when standing alone—de Gaulle, de Lattre, d'Auvergne, d'Harcourt. Polysyllabic names fitting none of the above exceptions drop the "de," but retain it when preceded by a title or given name.

LUCILLE B. GAIGNAULT
PRINCETON, NEW JERSEY

Please send letters to LettersEd@si.edu or to **Letters, Smithsonian, MRC 951, P.O. Box 37012, Washington, D.C. 20013.** Include a telephone number and address. Letters may be edited for clarity or space. Because of the high volume of mail we receive, we cannot respond to all letters. Send queries about the Smithsonian Institution to info@si.edu or to VIARC, Public Inquiry Mail Service, P.O. Box 37012, Washington, D.C. 20013.

The Irish really are lucky.
They get to live here.

Ireland

There's something of Ireland in all of us.
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September 1970
THE YEAR WE WERE BORN

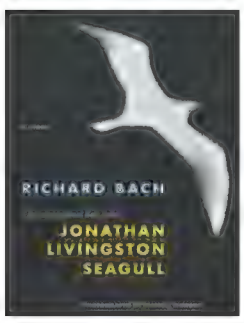
A LOOK BACK AT THE WORLD IN SMITHSONIAN MAGAZINE'S FIRST YEAR

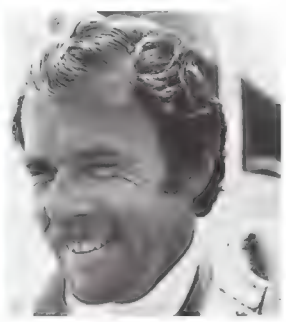
On September 28, the House approves a $60 million funding package for the Corporation for Public Broadcasting. The corporation's recently formed network, Public Broadcasting Service, or PBS, hits the airwaves the following month, offering up such fare as "Sesame Street" and "The Forsyte Saga."

WHERE ARE THEY NOW?

RICHARD BACH

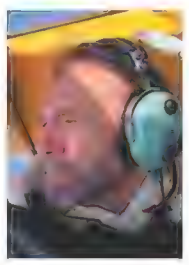
AUTHOR, *JONATHAN LIVINGSTON SEAGULL*





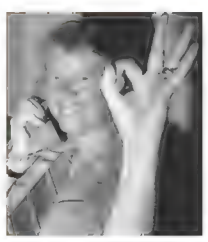
Says Bach (right, c. 1975): "I'm glad so many people like the little seagull." Left: The original cover, c. 1970.

"SUDDENLY, I was on the cover of *Time*. And all these people are asking, 'What did you have for breakfast?'" says author Richard Bach today of his flurry of fame after the publication of *Jonathan Livingston Seagull* in September 1970. The fable, which follows a seagull who has a passion for flight, spent 38 weeks at the top of the *New York Times* best-seller list. But its success came only after 18 rejections from publishers, some of which included such comments as, "Please, not a talking seagull" and "Oh dear, no." No wonder Bach encourages would-be writers to "never give up if you write something you really love."



The 60-something Bach, who claims to be ageless ("I was never born, I will never die"), lives in Washington State with his wife, Sabryna. His most recent work is 2004's *Messiah's Handbook*, a story about a magical book. "Open it anywhere," says Bach, "and on that page is whatever you most need to know." —*MIMI KIRK*

IN THE NEWS



Forty-five-year-old peanut farmer and former Georgia state senator Jimmy Carter wins the state's Democratic gubernatorial nomination against incumbent Carl E. Sanders September 23. Carter went on to take the election and serve as Georgia's governor from 1971 to 1975 and as U.S. president from 1977 to 1981. For his efforts as an international mediator and promoter of democracy and human rights, Carter won the Nobel Peace Prize in 2002.

On September 29, President Nixon signs a bill authorizing $20 million to purchase 58,398 acres of private land to add to the 1.4 million acres of Everglades National Park in South Florida. UNESCO listed the park as a World Heritage Site in 1979, but placed it on the "World Heritage in Danger" list in 1993, due to nearby urban growth and pollution from fertilizers, among other factors. In 2003, Governor Jeb Bush signed a bill extending, by ten years, the deadline to clean up the park, to 2016.

THE LIST

1970 Bestselling Albums

1. *Bridge Over Troubled Water* / Simon & Garfunkel
2. *Déjà Vu* / Crosby, Stills, Nash & Young
3. *McCartney* / Paul McCartney
4. *Let It Be* / The Beatles (soundtrack)
5. *Woodstock* (soundtrack)
6. *Blood, Sweat & Tears 3* / Blood, Sweat & Tears
7. *Cosmo's Factory* / Creedence Clearwater Revival
8. *Abraxas* / Santana
9. *Led Zeppelin III* / Led Zeppelin

COMINGS & GOINGS

BORN:
Macy Gray, singer
September 6

DIED:
Gamal Abdel Nasser, 52
Egyptian president, September 28

DIED:
Jimi Hendrix, 27
Musician, September 18

DIED:
Vince Lombardi, 57
Football coach, September 3

"Mass transportation in certain areas is certainly a necessity, but if you think mass transportation is going to replace the automobile I think you're whistling Dixie or taking pot. It just isn't going to be, not in my lifetime, anyhow." —**HENRY FORD II**, IN THE SEPTEMBER 23 *NEW YORK TIMES*

SIMON & SCHUSTER; AP / WIDE WORLD PHOTOS; PAUL A. SOUDERS / CORBIS; RIGHT: SESAME WORKSHOP; UPI / CORBIS; GEORGE MCCARTHY / NATURE PICTURE LIBRARY; FRAZER HARRISON / GETTY IMAGES; AFP / GETTY IMAGES; DOUGLAS KENT HALL / ZUMA / CORBIS; BETTMANN / CORBIS (2)

When it comes to bad cholesterol–

Ask your doctor if lower is better.

Getting high cholesterol down is important.

Doctors know lowering high cholesterol is important for everyone. But for some people, it's even more important. In fact, a panel of medical experts recently proposed updated guidelines suggesting many patients aim for an even lower cholesterol goal than before.*

Working with your doctor is key to helping you reach your cholesterol goal.

If, after all you've tried—including diet and exercise—your doctor believes you need to get your bad cholesterol even lower, ask whether CRESTOR might help.

Aim lower.

CRESTOR may make the difference you need. In fact, the 10-mg dose of CRESTOR, along with diet, can lower bad cholesterol by as much as 52% (vs 7% with placebo). That means your LDL-C—the bad cholesterol—could go down about half. Your results may vary.

Is CRESTOR right for you?

That's another conversation you need to have with your doctor. Your doctor will decide the best course of treatment for you after assessing your particular needs.

Get more information about CRESTOR.

To learn more about CRESTOR, or if you are without prescription coverage and can't afford your medication, AstraZeneca may be able to help. Call 800-CRESTOR or visit CRESTOR.com.

Here is important safety information about CRESTOR you need to know.

CRESTOR is prescribed along with diet for lowering high cholesterol and has not been determined to prevent heart disease, heart attacks, or strokes. CRESTOR is not right for everyone, including women who are nursing, pregnant, or who may become pregnant, or anyone with liver problems. Your doctor will do blood tests before and during treatment with CRESTOR to monitor your liver function. Unexplained muscle pain and weakness could be a sign of a rare but serious side effect and should be reported to your doctor right away. The 40-mg dose of CRESTOR is only for patients who do not reach goal on 20 mg. Be sure to tell your doctor if you are taking any medications. Side effects occur infrequently and include muscle aches, constipation, weakness, abdominal pain, and nausea. They are usually mild and tend to go away.

If your doctor says, "lower is better," aim lower with CRESTOR.

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*Adult Treatment Panel (ATP) III, Update, 2004

Please read the important Product Information about CRESTOR on the adjacent page and discuss it with your doctor.

AstraZeneca

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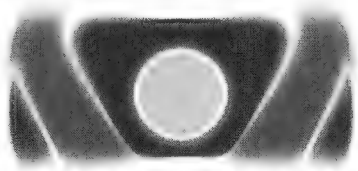
Please read this summary carefully and then ask your doctor about CRESTOR. No advertisement can provide all the information needed to determine if a drug is right for you. This advertisement does not take the place of careful discussions with your doctor. Only your doctor has the training to weigh the risks and benefits of a prescription drug.

BRIEF SUMMARY: For full Prescribing Information, see package insert. **INDICATIONS AND USAGE** CRESTOR is indicated: 1. as an adjunct to diet to reduce elevated total-C, LDL-C, ApoB, nonHDL-C, and TG levels and to increase HDL-C in patients with primary hypercholesterolemia (heterozygous familial and nonfamilial) and mixed dyslipidemia (Fredrickson Type IIa and IIb); 2. as an adjunct to diet for the treatment of patients with elevated serum TG levels (Fredrickson Type IV); 3. to reduce LDL-C, total-C, and ApoB in patients with homozygous familial hypercholesterolemia as an adjunct to other lipid-lowering treatments (e.g., LDL apheresis) or if such treatments are unavailable. **CONTRAINDICATIONS** CRESTOR is contraindicated in patients with a known hypersensitivity to any component of this product. Rosuvastatin is contraindicated in patients with active liver disease or with unexplained persistent elevations of serum transaminases (see WARNINGS, Liver Enzymes). **Pregnancy and Lactation** Atherosclerosis is a chronic process and discontinuation of lipid-lowering drugs during pregnancy should have little impact on the outcome of long-term therapy of primary hypercholesterolemia. Cholesterol and other products of cholesterol biosynthesis are essential components for fetal development (including synthesis of steroids and cell membranes). Since HMG-CoA reductase inhibitors decrease cholesterol synthesis and possibly the synthesis of other biologically active substances derived from cholesterol, they may cause fetal harm when administered to pregnant women. Therefore, HMG-CoA reductase inhibitors are contraindicated during pregnancy and in nursing mothers. ROSUVASTATIN SHOULD BE ADMINISTERED TO WOMEN OF CHILDBEARING AGE ONLY WHEN SUCH PATIENTS ARE HIGHLY UNLIKELY TO CONCEIVE AND HAVE BEEN INFORMED OF THE POTENTIAL HAZARDS. If the patient becomes pregnant while taking this drug, therapy should be discontinued immediately and the patient apprised of the potential hazard to the fetus. **WARNINGS Liver Enzymes** HMG-CoA reductase inhibitors, like some other lipid-lowering therapies, have been associated with biochemical abnormalities of liver function. The incidence of persistent elevations (>3 times the upper limit of normal [ULN] occurring on 2 or more consecutive occasions) in serum transaminases in fixed dose studies was 0.4, 0, 0, and 0.1% in patients who received rosuvastatin 5, 10, 20, and 40 mg, respectively. In most cases, the elevations were transient and resolved or improved on continued therapy or after a brief interruption in therapy. There were two cases of jaundice, for which a relationship to rosuvastatin therapy could not be determined, which resolved after discontinuation of therapy. There were no cases of liver failure or irreversible liver disease in these trials. **It is recommended that liver function tests be performed before and at 12 weeks following both the initiation of therapy and any elevation of dose, and periodically (e.g., semiannually) thereafter.** Liver enzyme changes generally occur in the first 3 months of treatment with rosuvastatin. Patients who develop increased transaminase levels should be monitored until the abnormalities have resolved. Should an increase in ALT or AST of >3 times ULN persist, reduction of dose or withdrawal of rosuvastatin is recommended. Rosuvastatin should be used with caution in patients who consume substantial quantities of alcohol and/or have a history of liver disease (see CLINICAL PHARMACOLOGY, Special Populations, Hepatic Insufficiency). Active liver disease or unexplained persistent transaminase elevations are contraindications to the use of rosuvastatin (see CONTRAINDICATIONS). **Myopathy/Rhabdomyolysis Rare cases of rhabdomyolysis with acute renal failure secondary to myoglobinuria have been reported with rosuvastatin and with other drugs in this class.** Uncomplicated myalgia has been reported in rosuvastatin-treated patients (see ADVERSE REACTIONS). Creatine kinase (CK) elevations (>10 times upper limit of normal) occurred in 0.2% to 0.4% of patients taking rosuvastatin at doses up to 40 mg in clinical studies. Treatment-related myopathy, defined as muscle aches or muscle weakness in conjunction with increases in CK values >10 times upper limit of normal, was reported in up to 0.1% of patients taking rosuvastatin doses of up to 40 mg in clinical studies. In clinical trials, the incidence of myopathy and rhabdomyolysis increased at doses of rosuvastatin above the recommended dosage range (5 to 40 mg). In postmarketing experience, effects on skeletal muscle, e.g. uncomplicated myalgia, myopathy and, rarely, rhabdomyolysis have been reported in patients treated with HMG-CoA reductase inhibitors including rosuvastatin. As with other HMG-CoA reductase inhibitors, reports of rhabdomyolysis with rosuvastatin are rare, but higher at the highest marketed dose (40 mg). Factors that may predispose patients to myopathy with HMG-CoA reductase inhibitors include advanced age (≥65 years), hypothyroidism, and renal insufficiency. Consequently: 1. Rosuvastatin should be prescribed with caution in patients with predisposing factors for myopathy, such as, renal impairment (see DOSAGE AND ADMINISTRATION), advanced age, and inadequately treated hypothyroidism. 2. Patients should be advised to promptly report unexplained muscle pain, tenderness, or weakness, particularly if accompanied by malaise or fever. Rosuvastatin therapy should be discontinued if markedly elevated CK levels occur or myopathy is diagnosed or suspected. 3. The 40 mg dose of rosuvastatin is reserved only for those patients who have not achieved their LDL-C goal utilizing the 20 mg dose of rosuvastatin once daily (see DOSAGE AND ADMINISTRATION). 4. The risk of myopathy during treatment with rosuvastatin may be increased with concurrent administration of other lipid-lowering therapies or cyclosporine, (see CLINICAL PHARMACOLOGY, Drug Interactions, PRECAUTIONS, Drug Interactions, and DOSAGE AND ADMINISTRATION). **The benefit of further alterations in lipid levels by the combined use of rosuvastatin with fibrates or niacin should be carefully weighed against the potential risks of this combination. Combination therapy with rosuvastatin and gemfibrozil should generally be avoided. (See DOSAGE AND ADMINISTRATION and PRECAUTIONS, Drug Interactions).** 5. **The risk of myopathy during treatment with rosuvastatin may be increased in circumstances which increase rosuvastatin drug levels (see CLINICAL PHARMACOLOGY, Special Populations, Race and Renal Insufficiency, and PRECAUTIONS, General).** 6. **Rosuvastatin therapy should also be temporarily withheld in any patient with an acute, serious condition suggestive of myopathy or predisposing to the development of renal failure secondary to rhabdomyolysis (e.g., sepsis, hypotension, dehydration, major surgery, trauma, severe metabolic, endocrine, and electrolyte disorders, or uncontrolled seizures).** **PRECAUTIONS General** Before instituting therapy with rosuvastatin, an attempt should be made to control hypercholesterolemia with appropriate diet and exercise, weight reduction in obese patients, and treatment of underlying medical problems (see INDICATIONS AND USAGE). Administration of rosuvastatin 20 mg to patients with severe renal impairment (CL_{cr} <30 mL/min/1.73 m^2) resulted in a 3-fold increase in plasma concentrations of rosuvastatin compared with healthy volunteers (see WARNINGS, Myopathy/Rhabdomyolysis and DOSAGE AND ADMINISTRATION). The result of a large pharmacokinetic study conducted in the US demonstrated an approximate 2-fold elevation in median exposure in Asian subjects (having either Filipino, Chinese, Japanese, Korean, Vietnamese or Asian-Indian origin) compared with a Caucasian control group. This increase should be considered when making rosuvastatin dosing decisions for Asian patients. (See WARNINGS, Myopathy/Rhabdomyolysis; CLINICAL PHARMACOLOGY, Special Populations, Race, and DOSAGE AND ADMINISTRATION.) **Information for Patients** Patients should be advised to report promptly unexplained muscle pain, tenderness, or weakness, particularly if accompanied by malaise or fever. When taking rosuvastatin with an aluminum and magnesium hydroxide combination antacid, the antacid should be taken at least 2 hours after rosuvastatin administration (see CLINICAL PHARMACOLOGY, Drug Interactions). **Laboratory Tests** In the rosuvastatin clinical trial program, dipstick-positive proteinuria and microscopic hematuria were observed among rosuvastatin-treated patients, predominantly in patients dosed above the recommended dose range (i.e., 80 mg). However, this finding was more frequent in patients taking rosuvastatin 40 mg, when compared to lower doses of rosuvastatin or comparator statins, though it was generally transient and was not associated with worsening renal function. Although the clinical significance of this finding is unknown, a dose reduction should be considered for patients on rosuvastatin 40 mg therapy with unexplained persistent proteinuria during routine urinalysis testing. **Drug Interactions Cyclosporine:** When rosuvastatin 10 mg was coadministered with cyclosporine in cardiac transplant patients, rosuvastatin mean C_{max} and mean AUC were increased 11-fold and 7-fold, respectively, compared with healthy volunteers. These increases are considered to be clinically significant and require special consideration in the dosing of rosuvastatin to patients taking concomitant cyclosporine (see WARNINGS, Myopathy/Rhabdomyolysis, and DOSAGE AND ADMINISTRATION). **Warfarin:** Coadministration of rosuvastatin to patients on stable warfarin therapy resulted in clinically significant rises in INR (>4, baseline 2-3). In patients taking coumarin anticoagulants and rosuvastatin concomitantly, INR should be determined before starting rosuvastatin and frequently enough during early therapy to ensure that no significant alteration of INR occurs. Once a stable INR time has been documented, INR can be monitored at the intervals usually recommended for patients on coumarin anticoagulants. If the dose of rosuvastatin is changed, the same procedure should be repeated. Rosuvastatin therapy has not been associated with bleeding or with changes in INR in patients not taking anticoagulants. **Gemfibrozil:** Coadministration of a single rosuvastatin dose to healthy volunteers on gemfibrozil (600 mg twice daily) resulted in a 2.2- and 1.9-fold, respectively, increase in mean C_{max} and mean AUC of rosuvastatin (see DOSAGE AND ADMINISTRATION). **Endocrine Function** Although clinical studies have shown that rosuvastatin alone does not reduce basal plasma cortisol concentration or impair adrenal reserve, caution should be exercised if any HMG-CoA reductase inhibitor or other agent used to lower cholesterol levels is administered concomitantly with drugs that may decrease the levels or activity of endogenous steroid hormones such as ketoconazole, spironolactone, and cimetidine. **CNS Toxicity** CNS vascular lesions, characterized by perivascular hemorrhages, edema, and mononuclear cell infiltration of perivascular spaces, have been observed in dogs treated with several other members of this drug class. A chemically similar drug in this class produced dose-dependent optic nerve degeneration (Wallerian degeneration of retinogeniculate fibers) in dogs, at a dose that produced plasma drug levels about 30 times higher than the mean drug level in humans taking the highest recommended dose. Edema, hemorrhage, and partial necrosis in the interstitium of the choroid plexus was observed in a female dog sacrificed moribund at day 24 at 90 mg/kg/day by oral gavage (systemic exposures 100 times the human exposure at 40 mg/day based on AUC comparisons). Corneal opacity was seen in dogs treated for 52 weeks at 6 mg/kg/day by oral gavage (systemic exposures 20 times the human exposure at 40 mg/day based on AUC comparisons). Cataracts were seen in dogs treated for 12 weeks by oral gavage at 30 mg/kg/day (systemic exposures 60 times the human exposure at 40 mg/day based on AUC comparisons). Retinal dysplasia and retinal loss were seen in dogs treated for 4 weeks by oral gavage at 90 mg/kg/day (systemic exposures 100 times the human exposure at 40 mg/day based on AUC). Doses ≤30 mg/kg/day (systemic exposures ≤60 times the human exposure at 40 mg/day based on AUC comparisons) following treatment up to one year, did not reveal retinal findings. **Carcinogenesis, Mutagenesis, Impairment of Fertility** In a 104-week carcinogenicity study in rats at dose levels of 2, 20, 60, or 80 mg/kg/day by oral gavage, the incidence of uterine stromal polyps was significantly increased in females at 80 mg/kg/day at



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systemic exposure 20 times the human exposure at 40 mg/day based on AUC. Increased incidence of polyps was not seen at lower doses. In a 107-week carcinogenicity study in mice given 10, 60, 200 mg/kg/day by oral gavage, an increased incidence of hepatocellular adenoma/carcinoma was observed at 200 mg/kg/day at systemic exposures 20 times human exposure at 40 mg/day based on AUC. An increased incidence of hepatocellular tumors was not seen at lower doses. Rosuvastatin was not mutagenic or clastogenic with or without metabolic activation in the Ames test with *Salmonella typhimurium* and *Escherichia coli*, the mouse lymphoma assay, and the chromosomal aberration assay in Chinese hamster lung cells. Rosuvastatin was negative in the *in vivo* mouse micronucleus test. In rat fertility studies with oral gavage doses of 5, 15, 50 mg/kg/day, males were treated for 9 weeks prior to and throughout mating and females were treated 2 weeks prior to mating and throughout mating until gestation day 7. No adverse effect on fertility was observed at 50 mg/kg/day (systemic exposures up to 10 times human exposure at 40 mg/day based on AUC comparisons). In testicles of dogs treated with rosuvastatin at 30 mg/kg/day for one month, spermatidic giant cells were seen. Spermatidic giant cells were observed in monkeys after 6-month treatment at 30 mg/kg/day in addition to vacuolation of seminiferous tubular epithelium. Exposures in the dog were 20 times and in the monkey 10 times human exposure at 40 mg/day based on body surface area comparisons. Similar findings have been seen with other drugs in this class. **Pregnancy** ***Pregnancy Category X*** See CONTRAINDICATIONS. Rosuvastatin may cause fetal harm when administered to a pregnant woman. Rosuvastatin is contraindicated in women who are or may become pregnant. Safety in pregnant women has not been established. There are no adequate and well-controlled studies of rosuvastatin in pregnant women. Rosuvastatin crosses the placenta and is found in fetal tissue and amniotic fluid at 3% and 20%, respectively, of the maternal plasma concentration following a single 25 mg/kg oral gavage dose on gestation day 16 in rats. A higher fetal tissue distribution (25% maternal plasma concentration) was observed in rabbits after a single oral gavage dose of 1 mg/kg on gestation day 18. If this drug is administered to a woman with reproductive potential, the patient should be apprised of the potential hazard to a fetus. In female rats given oral gavage doses of 5, 15, 50 mg/kg/day rosuvastatin before mating and continuing through day 7 postcoitus results in decreased fetal body weight (female pups) and delayed ossification at the high dose (systemic exposures 10 times human exposure at 40 mg/day based on AUC comparisons). In pregnant rats given oral gavage doses of 2, 20, 50 mg/kg/day from gestation day 7 through lactation day 21 (weaning), decreased pup survival occurred in groups given 50 mg/kg/day, systemic exposures ≥12 times human exposure at 40 mg/day based on body surface area comparisons. In pregnant rabbits given oral gavage doses of 0.3, 1, 3 mg/kg/day from gestation day 6 to lactation day 18 (weaning), exposures equivalent to human exposure at 40 mg/day based on body surface area comparisons, decreased fetal viability and maternal mortality was observed. Rosuvastatin was not teratogenic in rats at ≤25 mg/kg/day or in rabbits ≤3 mg/kg/day (systemic exposures equivalent to human exposure at 40 mg/day based on AUC or body surface comparison, respectively). **Nursing Mothers** It is not known whether rosuvastatin is excreted in human milk. Studies in lactating rats have demonstrated that rosuvastatin is secreted into breast milk at levels 3 times higher than that obtained in the plasma following oral gavage dosing. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in nursing infants from rosuvastatin, a decision should be made whether to discontinue nursing or administration of rosuvastatin taking into account the importance of the drug to the lactating woman. **Pediatric Use** The safety and effectiveness in pediatric patients have not been established. Treatment experience with rosuvastatin in a pediatric population is limited to 8 patients with homozygous FH. None of these patients was below 8 years of age. **Geriatric Use** Of the 10,275 patients in clinical studies with rosuvastatin, 3,159 (31%) were 65 years and older, and 698 (6.8%) were 75 years and older. The overall frequency of adverse events and types of adverse events were similar in patients above and below 65 years of age. (See WARNINGS, Myopathy/Rhabdomyolysis.) The efficacy of rosuvastatin in the geriatric population (≥65 years of age) was comparable to the efficacy observed in the non-elderly. **ADVERSE REACTIONS** Rosuvastatin is generally well tolerated. Adverse reactions have usually been mild and transient. In clinical studies of 10,275 patients, 3.7% were discontinued due to adverse experiences attributable to rosuvastatin. The most frequent adverse events thought to be related to rosuvastatin were myalgia, constipation, asthenia, abdominal pain, and nausea. **Clinical Adverse Experiences** Adverse experiences, regardless of causality assessment, reported in ≥2% of patients in placebo-controlled clinical studies of rosuvastatin are shown in Table 1; discontinuations due to adverse events in these studies of up to 12 weeks duration occurred in 3% of patients on rosuvastatin and 5% on placebo.

Table 1. Adverse Events in Placebo-Controlled Studies

Adverse event	Rosuvastatin N=744	Placebo N=382
Pharyngitis	9.0	7.6
Headache	5.5	5.0
Diarrhea	3.4	2.9
Dyspepsia	3.4	3.1
Nausea	3.4	3.1
Myalgia	2.8	1.3
Asthenia	2.7	2.6
Back pain	2.6	2.4
Flu syndrome	2.3	1.8
Urinary tract infection	2.3	1.6
Rhinitis	2.2	2.1
Sinusitis	2.0	1.8

In addition, the following adverse events were reported, regardless of causality assessment, in ≥1% of 10,275 patients treated with rosuvastatin in clinical studies. The events in *italics* occurred in ≥2% of these patients. **Body as a Whole:** *Abdominal pain, accidental injury, chest pain, infection, pain,* pelvic pain, and neck pain. **Cardiovascular System:** *Hypertension,* angina pectoris, vasodilatation, and palpitation. **Digestive System:** *Constipation, gastroenteritis,* vomiting, flatulence, periodontal abscess, and gastritis. **Endocrine:** Diabetes mellitus. **Hemic and Lymphatic System:** Anemia and ecchymosis. **Metabolic and Nutritional Disorders:** *Peripheral edema.* **Musculoskeletal System:** *Arthritis, arthralgia,* and pathological fracture. **Nervous System:** *Dizziness, insomnia, hypertonia, paresthesia, depression,* anxiety, vertigo, and neuralgia. **Respiratory System:** *Bronchitis, cough increased,* dyspnea, pneumonia, and asthma. **Skin and Appendages:** *Rash* and pruritus. **Laboratory Abnormalities:** In the rosuvastatin clinical trial program, dipstick-positive proteinuria and microscopic hematuria were observed among rosuvastatin-treated patients, predominantly in patients dosed above the recommended dose range (i.e., 80 mg). However, this finding was more frequent in patients taking rosuvastatin 40 mg, when compared to lower doses of rosuvastatin or comparator statins, though it was generally transient and was not associated with worsening renal function. (See PRECAUTIONS, Laboratory Tests.) Other abnormal laboratory values reported were elevated creatinine phosphokinase, transaminases, hyperglycemia, glutamyl transpeptidase, alkaline phosphatase, bilirubin, and thyroid function abnormalities. Other adverse events reported less frequently than 1% in the rosuvastatin clinical study program, regardless of causality assessment, included arrhythmia, hepatitis, hypersensitivity reactions (i.e., face edema, thrombocytopenia, leukopenia, vesiculobullous rash, urticaria, and angioedema), kidney failure, syncope, myasthenia, myositis, pancreatitis, photosensitivity reaction, myopathy, and rhabdomyolysis. **Postmarketing Experience** In addition to the events reported above, as with other drugs in this class, the following event has been reported during post-marketing experience with CRESTOR, regardless of causality assessment: very rare cases of jaundice. **OVERDOSAGE** There is no specific treatment in the event of overdose. In the event of overdose, the patient should be treated symptomatically and supportive measures instituted as required. Hemodialysis does not significantly enhance clearance of rosuvastatin. **DOSAGE AND ADMINISTRATION** The patient should be placed on a standard cholesterol-lowering diet before receiving CRESTOR and should continue on this diet during treatment. CRESTOR can be administered as a single dose at any time of day, with or without food. **Hypercholesterolemia (Heterozygous Familial and Nonfamilial) and Mixed Dyslipidemia (Fredrickson Type IIa and IIb)** The dose range for CRESTOR is 5 to 40 mg once daily. Therapy with CRESTOR should be individualized according to goal of therapy and response. The usual recommended starting dose of CRESTOR is 10 mg once daily. However, initiation of therapy with 5 mg once daily should be considered for patients requiring less aggressive LDL-C reductions, who have predisposing factors for myopathy, and as noted below for special populations such as patients taking cyclosporine, Asian patients, and patients with severe renal insufficiency (see CLINICAL PHARMACOLOGY, Race, and Renal Insufficiency, and Drug Interactions. For patients with marked hypercholesterolemia (LDL-C >190 mg/dL) and aggressive lipid targets, a 20-mg starting dose may be considered. After initiation and/or upon titration of CRESTOR, lipid levels should be analyzed within 2 to 4 weeks and dosage adjusted accordingly. **The 40-mg dose of CRESTOR is reserved only for those patients who have not achieved their LDL-C goal utilizing the 20 mg dose of CRESTOR once daily (see WARNINGS, Myopathy/ Rhabdomyolysis). When initiating statin therapy or switching from another statin therapy, the appropriate CRESTOR starting dose should first be utilized, and only then titrated according to the patient's individualized goal of therapy.** **Homozygous Familial Hypercholesterolemia** The recommended starting dose of CRESTOR is 20 mg once daily in patients with homozygous FH. The maximum recommended daily dose is 40 mg. CRESTOR should be used in these patients as an adjunct to other lipid-lowering treatments (e.g., LDL apheresis) or if such treatments are unavailable. Response to therapy should be estimated from pre-apheresis LDL-C levels. **Dosage in Asian Patients** Initiation of CRESTOR therapy with 5 mg once daily should be considered for Asian patients. The potential for increased systemic exposures relative to Caucasians is relevant when considering escalation of dose in cases where hypercholesterolemia is not adequately controlled at doses of 5, 10, or 20 mg once daily. (See WARNINGS, Myopathy/ Rhabdomyolysis, CLINICAL PHARMACOLOGY, Special Populations, Race, and PRECAUTIONS, General). **Dosage in Patients Taking Cyclosporine** In patients taking cyclosporine, therapy should be limited to CRESTOR 5 mg once daily (see WARNINGS, Myopathy/Rhabdomyolysis, and PRECAUTIONS, Drug Interactions). **Concomitant Lipid-Lowering Therapy** The effect of CRESTOR on LDL-C and total-C may be enhanced when used in combination with a bile acid binding resin. If CRESTOR is used in combination with gemfibrozil, the dose of CRESTOR should be limited to 10 mg once daily (see WARNINGS, Myopathy/Rhabdomyolysis, and PRECAUTIONS, Drug Interactions). **Dosage in Patients With Renal Insufficiency** No modification of dosage is necessary for patients with mild to moderate renal insufficiency. For patients with severe renal impairment (CL_{cr} <30 mL/min/1.73 m^2) not on hemodialysis, dosing of CRESTOR should be started at 5 mg once daily and not to exceed 10 mg once daily (see PRECAUTIONS, General, and CLINICAL PHARMACOLOGY, Special Populations, Renal Insufficiency).

NOTE: This summary provides important information about CRESTOR. For more information, please ask your doctor or health care professional about the full Prescribing Information and discuss it with them.

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TIES THAT BIND

AT LAST, ALL PARTIES WERE READY TO MAKE PEACE
IN THE MIDDLE EAST. WHOOPS . . . NOT SO FAST **BY JOHN F. HARRIS**

SECONDS BEFORE SHOWTIME, Bill Clinton received an urgent warning from a young aide: "Mr. President, you need to straighten your tie."

Clinton reached for his neck. Taking a cue from their host, three Middle East leaders reached for theirs. Only the tieless Yasser Arafat, chairman of the Palestine Liberation Organization, kept his hands at his side. That's him in the kaffiyeh, of course, no less a part of this fraternal tableau for his lack of Western attire. The man who was once his mortal enemy, Israeli prime minister Yitzhak Rabin, is on the left. In an instant, they would walk into the White House East Room to sign the latest installment of the delicately crafted peace plan known as the Oslo Accords.

It was a silly picture that White House photographer Barbara Kinney snapped—"People tend to smile when they see it," she says—but also an intimate and intensely hopeful one. Or so it seemed that afternoon ten years ago, September 28, 1995. Here were statesmen checking themselves out like groomsmen on history's backstage.

Photographic images are frozen in time, but the meanings they evoke are fluid. Kinney's picture once stood for possibility. These were leaders representing peoples who had hated and killed each other for decades, but in the friendly glow of Bill Clinton's White House they were bonded—if not by mutual affection, then at least by mutual vanity. They were in Washington to sign the second phase of Oslo, a pact designed to lead

A U.S. official noted the "camaraderie and trust among these guys—the Peace Brothers" (Rabin, Mubarak, Hussein, Clinton and Arafat).

within five years to the permanent settlement of conflicting Israeli and Palestinian claims over the Holy Land. The second phase would cede partial autonomy over parts of the West Bank to the Palestinians. The presence of the two men at the center of the photograph, Egyptian president Hosni Mubarak and King Hussein of Jordan, was especially important. They lent the imprimatur of the broader Arab world to the agreement—it was not simply a matter of relying on Arafat and his erratic ways.

A far more famous picture of Clinton as peacemaker had been taken two years earlier, on the White House South Lawn. That's when Oslo was unveiled and Clinton orchestrated a handshake between Rabin and Arafat. But the truth is that Clinton did not really have much to do with the initial accord, which the Palestinians and Israelis had negotiated directly, and secretly, and then presented to the White House. Rabin's handshake had been tentative and grudging.

For the people most familiar with the peace process, Kinney's image is more resonant. It was spontaneous, not staged. And it reflected the new comfort the Middle East leaders—especially Rabin and Arafat—had with one another and with the idea that their bloodstained region was ready at last to alter the grim continuities of history.

"There was a sense of bonhomie and camaraderie and trust among these guys—the Peace Brothers," recalls Martin Indyk, who was U.S. ambassador to Israel at the time and was in the room when Kinney raised her camera.

These days, the photograph evokes not possibility, but defeat. Within six weeks, Rabin would be dead, killed by a right-wing Israeli fanatic who did not like the former war hero's moves toward peace. Clinton was devastated. Later, he would become a more commanding figure on the world stage, but in 1995 he was still in many ways an apprentice in foreign affairs. He revered Rabin, an older man who had known violence and struggle and physical valor in ways Clinton had only read about. After Rabin's death, and despite the gradual unraveling of Oslo, Clinton persevered for his

In his final hours as president, Clinton told Arafat, "I am a failure, and you have made me one."

Kinney served as the White House photographer for more than six years.

remaining five years in office to forge peace in the Middle East. But all his coaxing, and blandishments and all-nighters at Camp David were no match for Arafat's unwillingness to confront his own people's hatreds and embrace any role other than victim.

In the final hours of Clinton's presidency, when Arafat told him he was a "great man," Clinton recounts in his memoir that he responded vehemently: "I am not a great man. I am a failure, and you have made me one."

So Kinney's moment echoes ambiguously. Was it simply small, terrible twists of fate that prevented peace? Or was the hope these men felt that day always an illusion?

Indyk believes the expansive possibilities of September 28, 1995, were real. Dennis Ross, the veteran U.S. negotiator for the Middle East, suggests the same in his memoir, *The Missing Peace*. Ross describes how, on that morning, Rabin and Arafat resolved a last-minute dispute over wording in an intense one-on-one conversation in Clinton's private study just off the Oval Office—the sort of exchange that had not happened earlier and has not happened since. Meanwhile, the other Middle Eastern leaders were talking in let's-get-it-done tones not just about the Oslo agreement, but about all the outstanding issues of the region, such as a settlement between Israel and Syria.

There was a sense, Ross told me in an e-mail, "that the Middle East was being transformed, this was not just Israelis and Palestinians, but now there was a coalition of peacemakers. That was the mood—and the picture captures the new sense of togetherness."

On that heady day, there were routine annoyances. Clinton and his guests were standing in the Red Room, waiting for the signal to walk to the East Room. But there was some inexplicable delay. Clinton, recalls Kinney, a veteran journalist who is now a photo editor at the *Seattle Times*, had given the leaders a full tour of every piece of history about the Red Room—he loved doing that for visitors—but even he had run out of things to say. It was during this stall for time that Clinton's tie came into question.

The search for peace in the Middle East goes on, but with new premises. Clinton's vision was based on the logic of persuasion—the belief that people could straighten their ties and even learn to like one another. The current Israeli prime minister, Ariel Sharon, believes in the logic of force—the conviction that any solution must accommodate the reality of unalterable mistrust and animosity. He has sought to impose a unilateral settlement to territorial issues, yielding claims to Gaza but erecting a security barrier to keep Palestinian terrorists at bay. The spirit of the handshake has been replaced by the spirit of the fence. No one knows yet whether that will work, either.

JOHN F. HARRIS is the political editor of the Washington Post *and the author of* The Survivor: Bill Clinton in the White House *(Random House, 2005).*

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THE OBJECT AT HAND

[*John Lennon's Stamp Album, c. 1950*]
SMITHSONIAN NATIONAL POSTAL MUSEUM

JOHN LENNON'S FIRST ALBUM

A RECENTLY ACQUIRED STAMP COLLECTION OPENS A NEW PAGE ON THE TEENAGE BEATLE-TO-BE **BY OWEN EDWARDS**

IT'S A GIVEN that boys just want to be cool. The definition may change from generation to generation, but the need seems hard-wired in the male psyche. As an observant father, I noticed that somewhere between third and fourth grade, my son's gawky goofiness turned into self-conscious scorekeeping; not only "Am I cool?" but "Am I cooler than Jason?" From that time on, many boys live according to a strict coolness code: certain ways to dress (prep chic in my time, perp chic today) and certain things to do, such as skateboarding and video games. For every cool marker, there's its uncool counterpart—to be avoided at all costs. One of the things decidedly uncool, most boys would probably agree (admittedly, I'm using my own rather rusty gauge of coolness here), is stamp collecting.

In 1965, Lennon ruled.

The National Postal Museum hopes to change that. It recently purchased John Lennon's boyhood stamp album, containing

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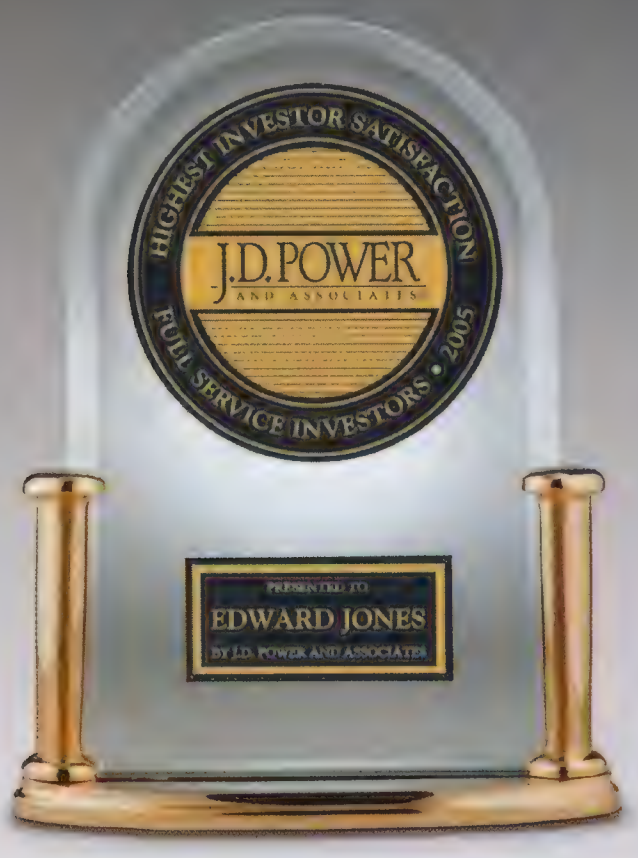

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MAKING SENSE OF INVESTING

"What do you call that haircut?" a reporter asked the Beatles upon their arrival in America. Not missing a beat, Lennon answered: "Arthur."

Before he was a Beatle, Lennon (at age 10, around the time he acquired his cousin's stamp album) lived with his aunt Mimi on Liverpool's Menlove Avenue, now a National Trust property.

more than 500 stamps, and as Wilson Hulme, the museum's curator of philately says, "There was nobody cooler than John Lennon."

From the moment Lennon and the other Beatles arrived in the United States and he answered a reporter's question ("What do you call that haircut?") with "Arthur," he was a larger-than-life figure on the pop music scene, an iconic personality with a wag's mind and a Jabberwockian way with words. I still remember the indecipherable lyrics of "I Am the Walrus," from the *Magical Mystery Tour* album:

. . . . Sitting on a cornflake, waiting for the van to come.
Corporation tee-shirt, stupid bloody Tuesday.
Man, you been a naughty boy, you let your face grow long.
I am the eggman, they are the eggmen, I am the walrus,
Goo Goo G'joob. . . .

Clearly, Lewis ("'twas brillig, and the slithy toves") Carroll had a worthy successor.

My tenuous connection to this offbeat poet was severed savagely in 1980 when, sitting in my Manhattan apartment across the street from the Dakota, with the windows open on an unusually warm December night, I heard the shots that killed him.

Now, with his stamp collection going on display next month, to commemorate what would have been his 65th birthday, October 9, we can picture a Lennon very different from his public persona—a young Liverpudlian living with his aunt Mimi on the oddly named Menlove Avenue, taking stamps off letters sent from New Zealand and America, dreaming, as boys do, of making a great escape. (Aunt Mimi's house, 251 Menlove Ave., was bought by Lennon's widow, Yoko Ono, in 2002 and donated to Britain's National Trust.) According to the Postal Museum's Hulme, the stamp album was given to Lennon by his older cousin Stanley Parkes who had started the collection. (Hulme points out that boys often lose interest in stamps when they acquire an interest in girls.) Lennon, probably 10 at the time, erased his cousin's name and wrote his own in the same space, and—a budding iconoclast—added inky mustaches to the cover pictures of Queen Victoria and King George VI.

Last May, Hulme read in the philatelic press that Lennon's album had been purchased at auction by Stanley Gibbons Ltd., a London stamp and autograph dealer. Gibbons was offering to resell it for about $50,000.

"My colleagues and I talked quickly about the album," says Hulme, "and within a couple of hours we were on the phone to Gibbons. The next week, we went to London to make the purchase."

The provenance of the album is somewhat murky; it had been sold once before at Christie's auction house, and for a while before that had been in the hands of a private dealer. But how it found its way to the market in the first place remains a mystery. The museum did make contact with Stanley Parkes, the original owner, who verified that the book was, indeed, the one he gave to his cousin.

As a collection, Hulme admits, Lennon's cache is not distinguished. "Typically, young boys aren't interested in rarity," Hulme says. "They tend to concentrate on geography and colors. If they come back to collecting when they have more time and money, that's when collections become exceptional."

"But these days," he adds, "fewer young people are coming into the hobby. We're very interested in getting their attention, which is one of the reasons we were so interested in this collection."

He was the stamp man,
Goo Goo G'joob.

OWEN EDWARDS is executive editor of Edutopia, *a magazine in California.*

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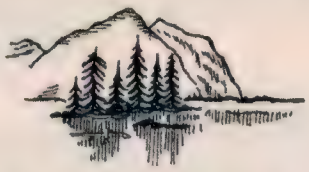

THE OREGON SKIER

IN OTHER WORDS, A PERSON SO FEARLESS YET GENTLE, SO BOLD YET KINDLY, SO WORLDLY YET MELLOW, THAT THEY RESEMBLE A BUNDLE OF PARADOXES WRAPPED IN A BUNGEE CORD OF ENIGMA STUFFED INTO AN ENVELOPE OF MYSTERY. ON SKIS.

Which brings us to the story of our heroine, an impressive skier herself, who happened upon a majestic white peak in the upper left-hand quarter of the map one day. On this peak stood a great, woodsy lodge that, the minute she laid eyes on it, brought to mind the grand and hospitable mountain chalets of Europe. No sooner had our skier-heroine laid tracks in the fresh powder surrounding the enchanted building than she vowed to make a habit of it. And no sooner had she crawled under the Native American blanket in her hand-carved bed than she dreamed a mysteriously vivid dream. She dreamed it was possible to play all manner of winter sports there, even in the middle of summer. And when she woke up, she found it was true.

Now here's another thing you may find mysterious. There are as many types of snow in Oregon as there are cheeses in France. You can taste them all if you have a few days: from the dry, fluffy goodness of Mt. Bachelor's high desert peak to the mid-July wonder of Mt. Hood's glacier to the deep, creamy drifts of the Wallowas.

You are cordially invited to sample our snows. And our cheeses, for that matter. We'd love to have you. But hand-carved beds don't grow on trees, so let's keep it among friends. Okay?

The sooner you start planning your Oregon ski vacation, the sooner you can start sampling our snows and cheeses. Go to traveloregon.com or call 1-800-547-7842.

FUEL FOR THOUGHT

CARS THAT RUN ON VEGETABLE OIL? DO-IT-YOURSELFERS AND ENTREPRENEURS ALIKE FILL 'ER UP WITH THE NATION'S FASTEST-GROWING ALTERNATIVE PROPELLANT **BY FRANCES CERRA WHITTELSEY**

EVERY FEW WEEKS, Etta Kantor goes to a Chinese restaurant and fills a couple of five-gallon pails with used cooking oil. Back in her garage, the 59-year-old philanthropist and grandmother strains it through a cloth filter and then pours it into a custom-made second fuel tank in her 2003 Volkswagen Jetta diesel station wagon. Once the car is warmed up, she flips a fuel toggle on the dashboard to switch to the vegetable oil. Wherever she drives, she's trailed by the appetizing odor of egg rolls.

Sean Parks of Davis, California, collects his cooking oil from a fish-and-chips restaurant and a corn-dog shop. He purifies it chemically in a 40-gallon reactor that he built himself for about $200. The processed oil can be used even when his car's engine is cold, at a cost of about 70 cents a gallon. Parks, 30, a geographer for the U.S. Forest Service, makes enough processed oil to fuel his family's two cars.

Kantor and Parks are willing to go the extra mile to reduce their dependence on petroleum and cut down on pollution. But these days environmentalists are not the only ones banking on biodiesel, as diesel-engine fuel made from vegetable oil is known. Entrepreneurs and soybean farmers are creating a new biodiesel industry, with some 300 retail biodiesel pumps nationwide so far. Commercial production of biodiesel grew 25 percent in 2004, making it the fastest-growing alternative fuel in the United States. Even the singer Willie Nelson recently started a company to market the fuel at truck stops.

The greening of the diesel engine is a return to its roots. Rudolf Diesel, the German engineer who in 1892 invented the engine that bears his name, boasted that it ran on peanut and castor oil. "Motive power can be produced by the agricultural transformation of the heat of the sun," he said. The inventor foresaw a future of virtually unlimited renewable energy from plants, but the idea slipped into obscurity because petroleum was so much cheaper than vegetable oil.

A century later, customers for commercial biodiesel include the U.S. Postal Service, the U.S. Army, the Forest Service, the city of Denver and numerous private truck fleets. Almost all use blends of 2 to 20 percent biodiesel mixed with standard petroleum diesel. The mixture helps federal and state agencies comply with a 2000 executive order by President Clinton mandating less petroleum consumption. Minnesota recently became the first state to require that all diesel fuel sold there be 2 percent biodiesel. Daimler-Chrysler's 2005 diesel Jeep Liberty comes off the production line with its tank filled with a 5 percent biodiesel mixture.

The major obstacle to wider use is price. Pure biodiesel sells for $2.50 to $3 a gallon, about 50 cents to $1 more than petrodiesel. To spur biodiesel's use, some European nations levy no taxes on it, and in October 2004, President Bush signed into law a 50 cent to $1 credit to fuel manufacturers for every gallon of biodiesel blended into petrodiesel.

Diesel engines differ from gasoline engines in their use of

Got grease? More and more drivers (Etta Kantor, with her retrofitted diesel) replace petroleum with used cooking oil.

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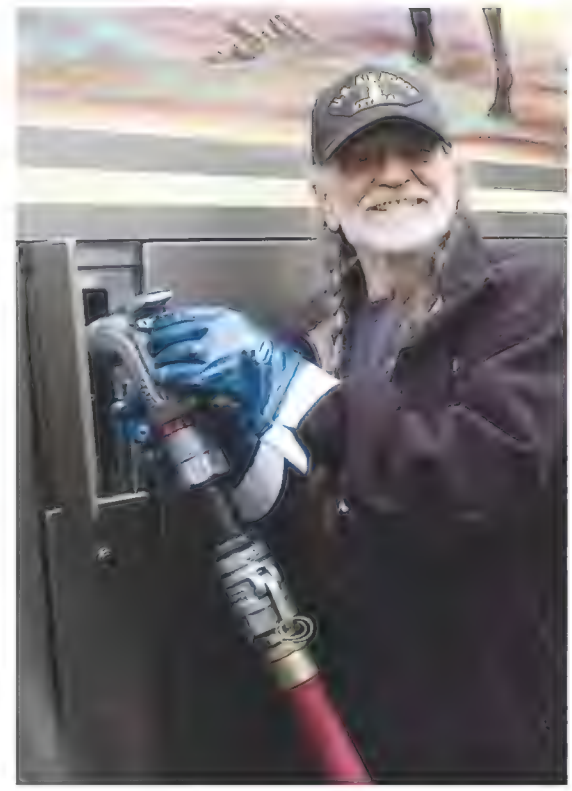
high pressure rather than a spark plug to ignite the fuel and drive the pistons. Diesel engines can run on fuel that is heavier than gasoline, making it possible to substitute filtered waste grease for petrodiesel. Both used and virgin vegetable oil contain glycerin—a syrupy liquid used in hand lotions. It burns well in a hot engine, as in Etta Kantor's retrofitted diesel, but clogs a cold one. Removing the glycerin yields biodiesel, which is suitable for even a cold engine.

Skeptics have questioned whether it takes more fossil fuel to produce biodiesel—to fertilize crops, transport them and press them for their oil—than the resulting biodiesel replaces. But Jim Duffield, an agricultural economist with the U.S. Department of Agriculture (USDA), says the "few lone voices" who still make that point have not kept up with improvements in agriculture and biodiesel technology. Indeed, a study by the U.S. Departments of Agriculture and Energy in 1998 and another in 2002 for the French government show that soybeans and canola oil yield three to four times more energy than is needed to make the fuel. (Similar skepticism has also dogged ethanol, a corn-based fuel mixed with gasoline to create gasohol. But USDA and other studies show that today's ethanol provides up to 30 percent more energy than it takes to make it.)

Another benefit of burning biodiesel is cleaner air. Compared with fossil fuels, it emits less carbon monoxide and hydrocarbons, as well as sulfur compounds related to acid rain. Pure biodiesel also substantially reduces overall emission of carbon dioxide, a major contributor to climate change, because the plants from which the oil was extracted absorbed atmospheric carbon dioxide while they were growing. A bus running on pure biodiesel would emit 32 percent less particulate matter, which has been implicated in the dramatic increase in asthma cases in cities. The only air pollution downside of pure biodiesel, according to the 1998 U.S. study, is a slight increase of smog-inducing nitrogen oxides.

"It smells like calamari," chemist Marty Borruso says. "I love calamari, but I don't know if I want to drive it."



On the road again: Biodiesel fans (Willie Nelson last year in Seattle) are pumped.

The inspiration for the do-it-yourself biodiesel movement came from Joshua Tickell, 29, of Baton Rouge. While studying in Germany in 1996, he was astonished to see a farmer using canola oil to run his tractor. Back in the States, Tickell used his last student loan check to help buy a 1986 diesel Winnebago. He painted sunflowers on his "Veggie Van" and, for two years beginning in 1997, toured the country, towing a simple reactor that turned restaurant oil into biodiesel. In 2000, he coauthored what would become the biodiesel bible, *From the Fryer to the Fuel Tank*. "My goal is very simply to make OPEC obsolete," he says.

Vegetable power also appeals to 50-year-old Marty Borruso, a chemist and partner in Environmental Alternatives in New York City, who insists he's no "environmental crazy." He produces biodiesel for a generator that makes electricity and hot water for an 87-family apartment house. He also sells the fuel to a tow truck fleet and anyone who comes to a pump he operates next to his production facility in Staten Island. In a 7,000-gallon reactor, Borruso processes out-of-date virgin vegetable oils, which he buys at a steep discount, and free grease from a fried chicken emporium. But he spurns grease from a seafood restaurant. "It smells like calamari," he says. "I love calamari, but I don't know if I want to drive it."

On average, fast-food restaurants in any major U.S. city generate about 22 pounds of waste grease each year per city resident, according to a 1998 study by the National Renewable Energy Laboratory (NREL). The National Biodiesel Board, a trade group in Jefferson City, Missouri, estimates that more than 2.5 billion pounds of waste cooking grease are available annually— enough to make 100 million gallons of biodiesel.

Of course, America's appetite for petroleum is huge: 2004 consumption was nearly 315 billion gallons, including 139 billion in gasoline and 41 billion diesel. Robert McCormick, a fuels engineer at NREL, says that biodiesel could displace 5 percent of the petrodiesel used in the United States within ten years. To replace more will require growing vegetable crops specifically for fuel—and America's soybean farmers are standing by. Some proponents envision growing aquatic algae—richer in oil than any other plant—in pools next to electric power stations. In an ecological two-for-one, the smokestack carbon dioxide would feed the algae, which would churn out biodiesel.

Grass-roots fans aren't waiting. Kantor, who paid $1,400 to outfit her VW diesel with a second fuel tank, says she gets nearly 200 miles per petrodiesel gallon. "This is not about money," says Kantor, who speaks at schools about protecting the environment. "I'm doing this to set an example."

FRANCES CERRA WHITTELSEY is a freelance writer in Huntington, New York.

PAUL NATKIN / FARM AID / A.P. / WIDE WORLD PHOTOS

They just found out their pain medication could put them at risk for a stomach ulcer.

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(esomeprazole magnesium)

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AstraZeneca

Please read this summary carefully, and then ask your doctor about NEXIUM. No advertisement can provide all the information needed to prescribe a drug. This advertisement does not take the place of careful discussions with your doctor. Only your doctor has the training to weigh the risks and benefits of a prescription drug for you.

NEXIUM® (esomeprazole magnesium)

20-mg, 40-mg Delayed-Release Capsules

BRIEF SUMMARY Before prescribing NEXIUM, please see full Prescribing Information. **INDICATIONS AND USAGE** NEXIUM is indicated for the short-term treatment (4 to 8 weeks) in the healing and symptomatic resolution of diagnostically confirmed erosive esophagitis; the maintenance of symptom resolution and healing of erosive esophagitis (controlled studies do not extend beyond 6 months); and for the treatment of heartburn and other symptoms associated with GERD; and for risk reduction of NSAID-associated gastric ulcer. **CONTRAINDICATIONS** NEXIUM is contraindicated in patients with known hypersensitivity to any component of the formulation or to substituted benzimidazoles. **PRECAUTIONS** Symptomatic response to therapy with NEXIUM does not preclude the presence of gastric malignancy. Atrophic gastritis has been noted occasionally in gastric corpus biopsies from patients treated long-term with omeprazole, of which NEXIUM is an enantiomer. **Information for Patients** NEXIUM Delayed-Release Capsules should be swallowed whole and taken at least one hour before meals. For patients who have difficulty swallowing capsules, one tablespoon of applesauce can be added to an empty bowl and the NEXIUM Delayed-Release Capsule can be opened, and the pellets carefully emptied onto the applesauce. The pellets should be mixed with the applesauce and then swallowed immediately. The applesauce used should not be hot and should be soft enough to be swallowed without chewing. The pellets should not be chewed or crushed. The pellet/applesauce mixture should not be stored for future use. Antacids may be used while taking NEXIUM. **Drug Interactions** Esomeprazole is extensively metabolized in the liver by CYP2C19 and CYP3A4. *In vitro* and *in vivo* studies have shown that esomeprazole is not likely to inhibit CYPs 1A2, 2A6, 2C9, 2D6, 2E1 and 3A4. No clinically relevant interactions with drugs metabolized by these CYP enzymes would be expected. Drug interaction studies have shown that esomeprazole does not have any clinically significant interactions with phenytoin, warfarin, quinidine, clarithromycin or amoxicillin. Post-marketing reports of changes in prothrombin measures have been received among patients on concomitant warfarin and esomeprazole therapy. Increases in INR and prothrombin time may lead to abnormal bleeding and even death. Patients treated with proton pump inhibitors and warfarin concomitantly may need to be monitored for increases in INR and prothrombin time. Esomeprazole may potentially interfere with CYP2C19, the major esomeprazole metabolizing enzyme. Coadministration of esomeprazole 30 mg and diazepam, a CYP2C19 substrate, resulted in a 45% decrease in clearance of diazepam. Increased plasma levels of diazepam were observed 12 hours after dosing and onwards. However, at that time, the plasma levels of diazepam were below the therapeutic interval, and thus this interaction is unlikely to be of clinical relevance. Coadministration of oral contraceptives, diazepam, phenytoin, or quinidine did not seem to change the pharmacokinetic profile of esomeprazole. Studies evaluating concomitant administration of esomeprazole and either naproxen (non-selective NSAID) or rofecoxib (COX-2 selective NSAID) did not identify any clinically relevant changes in the pharmacokinetic profiles of esomeprazole or these NSAIDs. Esomeprazole inhibits gastric acid secretion. Therefore, esomeprazole may interfere with the absorption of drugs where gastric pH is an important determinant of bioavailability (eg, ketoconazole, iron salts and digoxin). **Carcinogenesis, Mutagenesis, Impairment of Fertility** The carcinogenic potential of esomeprazole was assessed using omeprazole studies. In two 24-month oral carcinogenicity studies in rats, omeprazole at daily doses of 1.7, 3.4, 13.8, 44.0 and 140.8 mg/kg/day (about 0.7 to 57 times the human dose of 20 mg/day expressed on a body surface area basis) produced gastric ECL cell carcinoids in a dose-related manner in both male and female rats; the incidence of this effect was markedly higher in female rats, which had higher blood levels of omeprazole. Gastric carcinoids seldom occur in the untreated rat. In addition, ECL cell hyperplasia was present in all treated groups of both sexes. In one of these studies, female rats were treated with 13.8 mg omeprazole/kg/day (about 5.6 times the human dose on a body surface area basis) for 1 year, then followed for an additional year without the drug. No carcinoids were seen in these rats. An increased incidence of treatment-related ECL cell hyperplasia was observed at the end of 1 year (94% treated vs 10% controls). By the second year the difference between treated and control rats was much smaller (46% vs 26%) but still showed more hyperplasia in the treated group. Gastric adenocarcinoma was seen in one rat (2%). No similar tumor was seen in male or female rats treated for 2 years. For this strain of rat no similar tumor has been noted historically, but a finding involving only one tumor is difficult to interpret. A 78-week mouse carcinogenicity study of omeprazole did not show increased tumor occurrence, but the study was not conclusive. Esomeprazole was negative in the Ames mutation test, in the *in vivo* rat bone marrow cell chromosome aberration test, and the *in vivo* mouse micronucleus test. Esomeprazole, however, was positive in the *in vitro* human lymphocyte chromosome aberration test. Omeprazole was positive in the *in vitro* human lymphocyte chromosome aberration test, the *in vivo* mouse bone marrow cell chromosome aberration test, and the *in vivo* mouse micronucleus test. The potential effects of esomeprazole on fertility and reproductive performance were assessed using omeprazole studies. Omeprazole at oral doses up to 138 mg/kg/day in rats (about 56 times the human dose on a body surface area basis) was found to have no effect on reproductive performance of parental animals. **Pregnancy** *Teratogenic Effects. Pregnancy Category B* Teratology studies have been performed in rats at oral doses up to 280 mg/kg/day (about 57 times the human dose on a body surface area basis) and in rabbits at oral doses up to 86 mg/kg/day (about 35 times the human dose on a body surface area basis) and have revealed no evidence of impaired fertility or harm to the fetus due to esomeprazole. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed. Teratology studies conducted with omeprazole in rats at oral doses up to 138 mg/kg/day (about 56 times the human dose on a body surface area basis) and in rabbits at doses up to 69 mg/kg/day (about 56 times the human dose on a body surface area basis) did not disclose any evidence for a teratogenic potential of omeprazole. In rabbits, omeprazole in a dose range of 6.9 to 69.1 mg/kg/day (about 5.5 to 56 times the human dose on a body surface area basis) produced dose-related increases in embryo-lethality, fetal resorptions, and pregnancy disruptions. In rats, dose-related embryo/fetal toxicity and postnatal developmental toxicity were observed in offspring resulting from parents treated with omeprazole at 13.8 to 138.0 mg/kg/day (about 5.6 to 56 times the human doses on a body surface area basis). There are no adequate and well-controlled studies in pregnant women. Sporadic reports have been received of congenital abnormalities occurring in infants born to women who have received omeprazole during pregnancy. **Nursing Mothers** The excretion of esomeprazole in milk has not been studied. However, omeprazole concentrations have been measured in breast milk of a woman following oral administration of 20 mg. Because esomeprazole is likely to be excreted in human milk, because of the potential for serious adverse reactions in nursing infants from esomeprazole, and because of the potential for tumorigenicity shown for omeprazole in rat carcinogenicity studies, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother. **Pediatric Use** Safety and effectiveness in pediatric patients have not been established. **Geriatric Use** Of the total number of patients who received NEXIUM in clinical trials, 1459 were 65 to 74 years of age and 354 patients were 75 years of age. **ADVERSE REACTIONS** The safety of NEXIUM was evaluated in over 15,000 patients (aged 18-84 years) in clinical trials worldwide including over 8,500 patients in the United States and over 6,500 patients in Europe and Canada. Over 2,900 patients were treated in long-term studies for up to 6-12 months. In general, NEXIUM was well tolerated in both short- and long-term clinical trials. The safety in the treatment of healing of erosive esophagitis was assessed in four randomized comparative clinical trials, which included 1,240 patients on NEXIUM 20 mg, 2,434 patients on NEXIUM 40 mg, and 3,008 patients on omeprazole 20 mg daily. The most frequently occurring adverse events (1%) in all three groups was headache (5.5, 5.0, and 3.8, respectively) and diarrhea (no difference among the three groups). Nausea, flatulence, abdominal pain, constipation, and dry mouth occurred at similar rates among patients taking NEXIUM or omeprazole. Additional adverse events that were reported as possibly or probably related to NEXIUM with an incidence < 1% are listed below by body system: ***Body as a Whole:*** abdomen enlarged, allergic reaction, asthenia, back pain, chest pain, chest pain substernal, facial edema, peripheral edema, hot flushes, fatigue, fever, flu-like disorder, generalized edema, leg edema, malaise, pain, rigors; ***Cardiovascular:*** flushing, hypertension, tachycardia; ***Endocrine:*** goiter; ***Gastrointestinal:*** bowel irregularity, constipation aggravated, dyspepsia, dysphagia, dysplasia GI, epigastric pain, eructation, esophageal disorder, frequent stools, gastroenteritis, GI hemorrhage, GI symptoms not otherwise specified, hiccup, melena, mouth disorder, pharynx disorder, rectal disorder, serum gastrin increased, tongue disorder, tongue edema, ulcerative stomatitis, vomiting; ***Hearing:*** earache, tinnitus; ***Hematologic:*** anemia, anemia hypochromic, cervical lymphoadenopathy, epistaxis, leukocytosis, leukopenia, thrombocytopenia; ***Hepatic:*** bilirubinemia, hepatic function abnormal, SGOT increased, SGPT increased; ***Metabolic/Nutritional:*** glycosuria, hyperuricemia, hyponatremia, increased alkaline phosphatase, thirst, vitamin B12 deficiency, weight increase, weight decrease; ***Musculoskeletal:*** arthralgia, arthritis aggravated, arthropathy, cramps, fibromyalgia syndrome, hernia, polymyalgia rheumatica; ***Nervous System/Psychiatric:*** anorexia, apathy, appetite increased, confusion, depression aggravated, dizziness, hypertonia, nervousness, hypoesthesia, impotence, insomnia, migraine, migraine aggravated, paresthesia, sleep disorder, somnolence, tremor, vertigo, visual field defect; ***Reproductive:*** dysmenorrhea, menstrual disorder, vaginitis; ***Respiratory:*** asthma aggravated, coughing, dyspnea, larynx edema, pharyngitis, rhinitis, sinusitis; ***Skin and Appendages:*** acne, angioedema, dermatitis, pruritus, pruritus ani, rash, rash erythematous, rash maculopapular, skin inflammation, sweating increased, urticaria; ***Special Senses:*** otitis media, parosmia, taste loss, taste perversion; ***Urogenital:*** abnormal urine, albuminuria, cystitis, dysuria, fungal infection, hematuria, micturition frequency, moniliasis, genital moniliasis, polyuria; ***Visual:*** conjunctivitis, vision abnormal. Endoscopic findings that were reported as adverse events include: duodenitis, esophagitis, esophageal stricture, esophageal ulceration, esophageal varices, gastric ulcer, gastritis, hernia, benign polyps or nodules, Barrett's esophagus, and mucosal discoloration. Two placebo-controlled studies were conducted in 710 patients for the treatment of symptomatic gastroesophageal reflux disease. The most common adverse events that were reported as possibly or probably related to NEXIUM were diarrhea (4.3%), headache (3.8%), and abdominal pain (3.8%). Postmarketing Reports – There have been spontaneous reports of adverse events with postmarketing use of esomeprazole. These reports have included rare cases of anaphylactic reaction and myalgia, severe dermatologic reactions, including toxic epidermal necrolysis (TEN, some fatal), Stevens-Johnson syndrome, and erythema multiforme, and pancreatitis. Very rarely, hepatitis with or without jaundice has been reported. Other adverse events not observed with NEXIUM, but occurring with omeprazole can be found in the omeprazole package insert, **ADVERSE REACTIONS** section. **OVERDOSAGE** A single oral dose of esomeprazole at 510 mg/kg (about 103 times the human dose on a body surface area basis), was lethal to rats. The major signs of acute toxicity were reduced motor activity, changes in respiratory frequency, tremor, ataxia, and intermittent clonic convulsions. There have been some reports of overdosage with esomeprazole. Reports have been received of overdosage with omeprazole in humans. Doses ranged up to 2,400 mg (120 times the usual recommended clinical dose). Manifestations were variable, but included confusion, drowsiness, blurred vision, tachycardia, nausea, diaphoresis, flushing, headache, dry mouth, and other adverse reactions similar to those seen in normal clinical experience (see omeprazole package insert-**ADVERSE REACTIONS**). No specific antidote for esomeprazole is known. Since esomeprazole is extensively protein bound, it is not expected to be removed by dialysis. In the event of overdosage, treatment should be symptomatic and supportive. As with the management of any overdose, the possibility of multiple drug ingestion should be considered. For current information on treatment of any drug overdose, a certified Regional Poison Control Center should be contacted. Telephone numbers are listed in the Physicians' Desk Reference (PDR) or local telephone book. **DOSAGE AND ADMINISTRATION** Please see full Prescribing Information for recommended adult dosages and dosage adjustments for **Special Populations** for NEXIUM.

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COLD AND HUNGRY

WHEN SNOW BLANKETS THE MOUNTAINS, THE EXPEDITION IS ONCE AGAIN IMPERILED

Equipped with horses from the Shoshone, the corps prepares to cross the Bitterroot Mountains in present-day Idaho. But winter is fast approaching and there is little to eat.

September 4, 1805
[Capt. William Clark]
A verry cold morning every thing wet and frosed. . . . groun covered with Snow. . . . we met a part of the [Salish] nation of 33 Lodges about 80 men 400 Total and at least 500 horses, those people recved us friendly, threw white robes over our Sholders & Smoked in the pipes of peace, we Encamped with them & found them friendly.

September 10
[Capt. Meriwether Lewis]
This evening one of our hunters returned accompanyed by three men of the [Salish] nation. . . . [the third man] agreed to continue with us as a guide, and to introduce us to his relations whom he informed us were numerous and resided in the plain below the mountains on the columbia river, from whence he said the water was good and capable of being navigated to the sea.

September 14 [Sgt. Patrick Gass]
The two hunters, that had gone back here joined us with Capt. Lewis's horse, but none of the hunters killed any thing except 2 or 3 pheasants; on which, without a miracle it was impossible to feed 30 hungry men and upwards, besides some Indians. So Capt. Lewis gave out some portable soup, which he had along, to be used in cases of necessity. Some of the men did not relish this soup, and agreed to kill a colt; which they immediately did, and set about roasting it; and which appeared to me to be good eating.

September 16 [Clark]
Began to Snow about 3 hours before Day and Continud all day. . . . by night we found it from 6 to 8 Inches deep. . . . I have been wet and as cold in every part as I ever was in my life, indeed I was at one time fearfull my feet would freeze in the thin mockersons which I wore. . . . men all wet cold and hungary. Killed a Second Colt which we all Suped hartily on and thought it fine meat.

September 18 [Clark]
[No] sign of deer and nothing else . . . made 32 miles and Encamped on a . . . Creek . . . which I call *Hungery Creek* as at this place we had nothing to eate. I halted only one hour to day to let our horses feed on Grass and rest.

September 21 [Lewis]
I find myself growing weak for the want of food.

September 21 [Clark]
I collected a horse load of roots & 3 Sammon & Sent R Fields with one Indian to meet Capt Lewis.

FRANK D. HAGEL (KALISPELL, MT)

"The Indian dogs so hungry . . . that they eat . . . our mockasons last night."

September 18 [Lewis]
Cap Clark set out this morning to go a head with six hunters. there being no game in these mountains we concluded it would be better for one of us to take the hunters and hurry on to the leavel country a head and there hunt and provide some provision while the other remained with and brought on the party.

September 22 [Lewis]
I divided the fish roots and buries, and was happy to find a sufficiency to satisfy compleatly all our appetites.

September 24 [Clark]
Several men So unwell that they were Compelled to lie on the Side of the road for Some time others obliged to be put on horses.

DO WHAT THE HEALTHY PEOPLE DO

From Cicero to Thoreau, some of history's greatest minds have formulated rules on living a long and healthy life.

The most famous of these codifiers of good health habits is probably Benjamin Franklin who, as his alter ego "Poor Richard," offered such homilies as "early to bed and early to rise, makes a man healthy, wealthy, and wise." Franklin practiced the healthy living he preached — he was a lifelong swimmer and was moderate in his intake of alcohol. Of course, he also swore by his "air baths" — one hour a day in which he sat naked by an open window. Franklin lived to be 84, however, at a time when the average life span was about 45, so perhaps he was on to something.

In modern times, an entire industry has sprung up to provide us with what its experts say are the "secrets" of healthy living. With all the conflicting reports, how do we know what really works? Exercise? Diet? Air baths?

The scientists at the Cooper Institute in Dallas have been conducting a long-term study that has provided some clues. Over the past 20 years, researchers at the Institute have been tracking the health and habits of more than 80,000 men and women, aged 18 to 103, who have been examined at the Cooper Clinic. "We've followed many of these people over a good part of their lives," says Dr. Steve Blair, president of the Cooper Institute. "So we've been able to get a pretty good idea of what they do to stay healthy...or not."

The study has already yielded some important findings, the most striking of which is the direct correlation of fitness to longevity and health. "Very few health predictors are as strongly related with disease occurrence as is physical fitness," says Dr. Michael LaMonte, a director at the Institute. "If you're fit, your risk of getting many serious diseases is substantially lower." So strong is the relationship between fitness and health that getting active is now widely regarded as one of the single most important things you can do for your health. But it's not the only thing.

Diet is essential. Here, data from another long-term study is insightful: the National Weight Control Registry, founded in 1993, has an ongoing study of 4,500 men and women who have successfully maintained a 30-pound weight loss for a minimum of one year. It found that the vast majority of successful weight controllers use a combination of diet and exercise (again illustrating the importance of physical activity). They also tend to eat lower fat diets, and most eat breakfast every day.

The granddaddy of preventive health studies is the Framingham Heart Study. The 57-year-old study, which has now tracked more than 10,000 people from Framingham, Massachusetts, brought us the term "risk factors" and taught us the importance of not smoking and of getting regular medical screenings for cardiovascular disease.

FOR MORE INFORMATION

The principles of the Cooper Institute research have been put into action plans in two books, *Active Living Every Day* and *Healthy Eating Every Day*, both published by Human Kinetics. For more information, visit www.activeliving.info.

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Healthy people don't just know what needs to be done... they do it!

Evidence for other healthy habits is still emerging but is too important to overlook: sleep for example, or the ability to manage stress. "The evidence is not terribly strong linking stress management to longevity," says Blair. "But in my heart, I believe it has to be beneficial."

Finally — and perhaps most important — healthy people don't just know what needs to be done...they do it! The Cooper Institute found that successful methods for sticking with a program include keeping track of what you do, such as maintaining a training log or food diary; planning ahead for high risk situations, such as planning ways to stay active during the holidays or while on vacation; and trying to make your fitness activity enjoyable, perhaps by joining a group or taking up a new sport.

However you do it, following the simple guidelines listed below will keep you on the road to good health and a long life.

And if you'd like to take an air bath at any point along the way, go right ahead.

8 HABITS OF HEALTHY PEOPLE

1. Stay physically active: walking, bicycling, jogging, swimming, or a moderately vigorous lifestyle activity, 30 minutes per day, five days a week, plus two sessions per week of resistance training
2. Eat a balanced diet that's rich in fruits, vegetables and whole grains, and low in fats
3. Don't smoke
4. Use caffeine and alcohol in moderation
5. Get 7-8 hours of sleep a night
6. Get periodic health screenings, including age-appropriate tests for cancer and cardiovascular disease
7. Find healthy ways to manage stress
8. Incorporate steps 1-7 into your life

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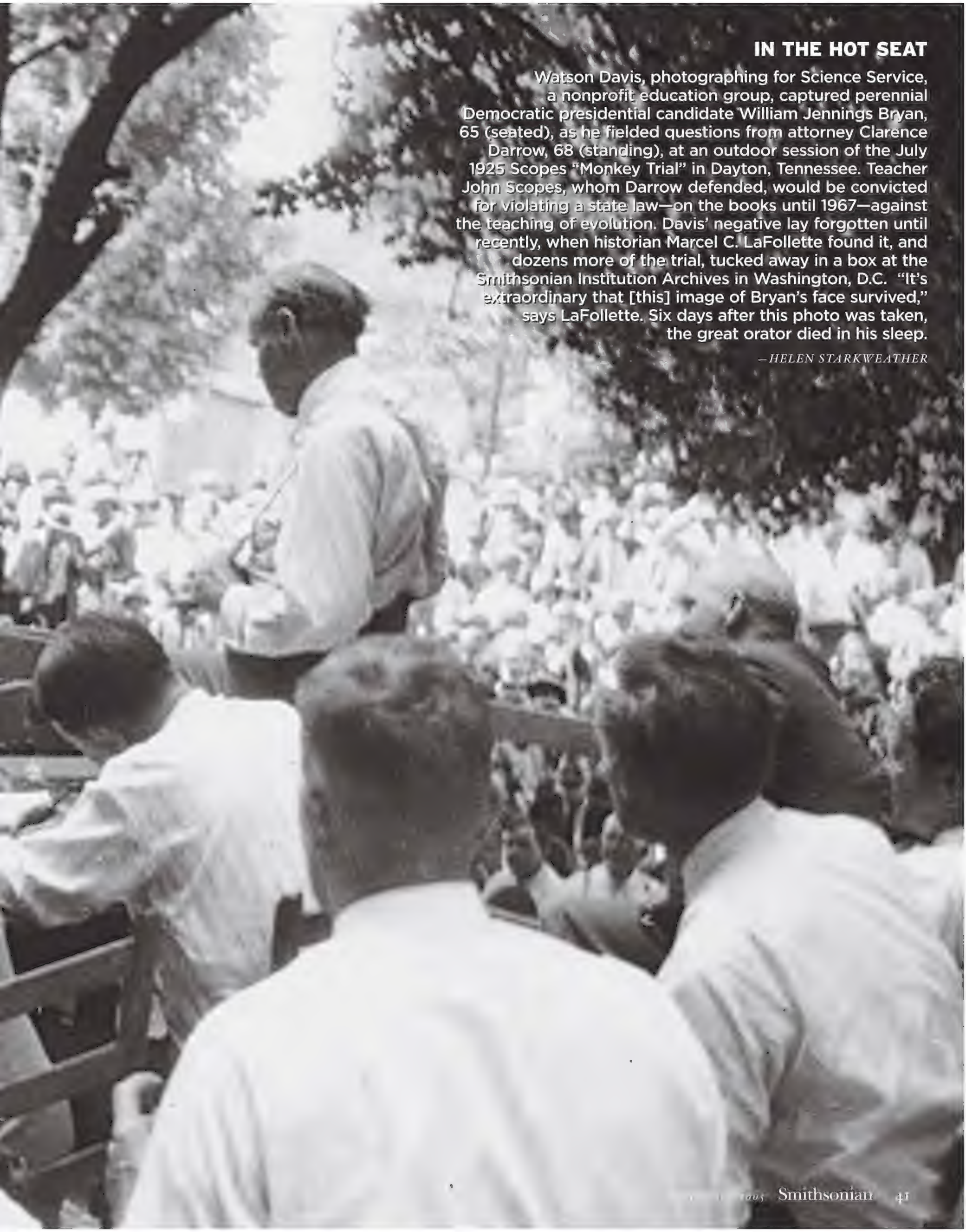

IN THE HOT SEAT

Watson Davis, photographing for Science Service, a nonprofit education group, captured perennial Democratic presidential candidate William Jennings Bryan, 65 (seated), as he fielded questions from attorney Clarence Darrow, 68 (standing), at an outdoor session of the July 1925 Scopes "Monkey Trial" in Dayton, Tennessee. Teacher John Scopes, whom Darrow defended, would be convicted for violating a state law—on the books until 1967—against the teaching of evolution. Davis' negative lay forgotten until recently, when historian Marcel C. LaFollette found it, and dozens more of the trial, tucked away in a box at the Smithsonian Institution Archives in Washington, D.C. "It's extraordinary that [this] image of Bryan's face survived," says LaFollette. Six days after this photo was taken, the great orator died in his sleep.

—*HELEN STARKWEATHER*

THE BEST OFFENSE

A BURIED CIVIL WAR BATTERY IN A KENTUCKY SUBURB TELLS OF VALIANT MEN STANDING AT THE READY . . . AND WAITING . . . AND WAITING. . . . **BY ANDREW BERG**

ON A SATURDAY MORNING last September, the Storer House in Fort Wright, Kentucky, was cordoned off with yellow tape. Dozens of volunteers—college students in work boots, white-haired seniors slathered in sunscreen, parents and children—were on their knees, helping search the yard for clues. The brick house, built in the 1940s by a man named Sheldon Storer, sits on a hill above the Ohio River, two miles south of Cincinnati. Next door is a Presbyterian church, whose marquee read: "Moses was once a basket case too." The leafy suburban neighborhood seems thoroughly ordinary, but under one neat lawn lies evidence of a startling historical paradox: on this spot in September 1862, absolutely nothing happened.

According to James Ramage, a history professor at Northern Kentucky University (NKU), this particular nonevent helped the republic win the Civil War. "The Confederate Army invaded Kentucky, hoping to attack Cincinnati," he said. "But when they discovered the Union defenses in these hills, they marched away in the night."

Ramage, a Civil War scholar who has extensively researched the defense of Cincinnati, is in charge of documenting the restoration of Battery Hooper, which both historical research and remote sensing have located under the Storer House yard. A six-foot-high redan, or U-shaped earthwork flanked with rifle trenches, Battery Hooper was part of an eight-mile arc of defensive positions protecting the city's southern flank on the Kentucky side of the Ohio River. As the Rebels approached, these positions were manned by some 22,000 Union soldiers reinforced by 50,000 "Squirrel Hunters," farm boys with reputations as crack shots.

After the war, the site would be all but forgotten. During construction of the house in 1941, fill dirt was brought in to level the yard, burying any vestige of Battery Hooper. Its recovery began with last summer's excavation project, funded by a grant from the Scripps Howard Foundation, NKU and the City of Fort Wright. The site will eventually be restored to its original appearance. In June, a museum devoted to the defense of Cincinnati opened in the Storer House, which Storer's widow, Fern, donated to NKU in 2001. Supervising the excavation is archaeologist Jeannine Kreinbrink. "Up to a few years ago," she said, "there were 10 or 11 [batteries] still here. Now only 6 are left. The rest have been destroyed by developers and bulldozers."

In September 2004, Kreinbrink's students dug 15 shallow pits where remote sensing had indicated concentrations of metal debris and what looked like foundation stones. The following weekend, NKU and Fort Wright officials invited volunteers in to work in the pits. Their finds included glass, nails, fragments of tobacco pipes, a button with an eagle on it, and a piece of lead shot. "I've given up on the gold and silver," quipped David Tillis, president of the Central Ohio Valley Archaeology Society. Tillis, wearing a khaki bush hat, was sifting a bucketful of dirt through a box screen. "If we can preserve the battery, or what's left of it, we can add a few sentences to the Civil War history of Cincinnati," he said.

"The enemy came, looked at [Battery Hooper and other defenses] and stole away in the night," said General Wallace.

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was called the Queen City of the West. Teeming with railways, steamboats and slaughterhouses, it was also known as "Porkopolis," in honor of its chief product. If the city fell, the invaders would be able to deny vital supplies to the Union, secure a major transportation hub, and Gen. Kirby Smith's Confederate Army of Kentucky would be poised to advance on the industrial cities of the North. "At the time, Cincinnati was one of the five or six largest cities in the United States," said Kreinbrink. "Whoever controlled Cincinnati controlled the Ohio River Valley, all the way up to Pittsburgh."

Union general Lew Wallace, assigned to defend the city, directed the construction of the hilltop defenses. Businessman William Hooper (for whom the battery was named) financed much of the project, while others pitched in. "Grocers contributed canned goods and fresh fruit," Ramage said. "Women cooked meals and volunteered as nurses. The Black Brigade of Cincinnati participated in the construction of the batteries. They got an eight-mile line of temporary defenses built in six days. People began to ask Wallace,—'Here you've created all this fuss. What if the Confederate Army doesn't come?' To which he replied, 'They will have decided better of it *because* of all this fuss.'"

General Smith's army had crossed the border from Tennessee into Kentucky in August 1862 and battled its way north. In September of that year, Smith dispatched 8,000 hardened veterans under the command of Gen. Henry Heth for a march on Cincinnati. On September 10, they engaged the defenses at Fort Mitchel, only a few miles from Hooper, and in the ensuing encounter 4 Union soldiers were killed, 2 Rebels were wounded and 16 were captured. Facing superior numbers and fortified positions, Heth decided the hilltops were too strong and withdrew the following night. Porkopolis' bacon was saved.

One hundred forty-two years later, volunteers were fussing over Battery Hooper again. "We're hoping to find

"There was no garbage pickup in the Civil War. If something broke, you threw it away, and it stayed where you threw it."

Archaeologist Kreinbrink (top): Stonework suggests that Hooper was a hub.

something," said Geniene Ward of nearby Villa Hills. She and her husband, Jack, came for the sake of their son Ian, an aspiring archaeologist. "Archaeology is one of his dreams," she added. Just then, Ian threw down his trowel. "This is boring," he said.

Things picked up a little when NKU archaeology student Baird Ullrey discovered a rusty cast-iron griddle. Ullrey—bearded, burly, with an Airborne Infantry tattoo on his biceps—delicately scraped the soil away from his find. After half an hour, he had exposed one edge. A small crowd gathered to watch. "We may be looking at a waste pit," whispered Bob Clements, a printer from Edgewood, Kentucky. Inspired by an ancestor's sword, Clements has been a lifelong Civil War buff and is a member of a regional group of reenactors. Bespectacled and dressed in the uniform of a corporal in the 18th Indiana Light Artillery, he wandered among the diggers, passing around vintage lead bullets from his collection and explaining the finer points of 1860s military camp life. "There was no garbage pickup in the Civil War," he said. "If something broke, you just threw it away, and it stayed where you threw it."

Although volunteers eventually found more than 1,400 artifacts from several different eras, the most significant was probably a limestone foundation wall and an adjacent circular ring of bricks unearthed in the middle of the lawn. "We found the foundation of the powder magazine," Kreinbrink said, "and the round thing is definitely a dry well."

The well-engineered stonework distinguishes Hooper from most of the other batteries, which were made of wood and earth. "Given its robust construction and location on a prominent hilltop with a commanding view of the other positions, we now believe that Battery Hooper was a communication hub," said Kreinbrink. "And that makes this an important discovery."

To today's volunteers, the significance of this suburban hilltop lies most particularly in the fact that the defenses were built by ordinary citizens to protect their city in a crisis. "It's an example of homeland security, of defending your community against terrorism," said Fort Wright city administrator Larry Klein. "They may not have thought of it in those terms 150 years ago, but it's really the same thing."

ANDREW BERG is a senior editor of National Geographic Adventure.

JIM CALLAWAY (2)

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Delaney's mother, Barbara Titanic (at left), donated a photo of herself with her uncle (below).

BRENDAN SMIALOWSKI; PHOTOGRAPHIC HISTORY COLLECTION, NATIONAL MUSEUM OF AMERICAN HISTORY, SMITHSONIAN INSTITUTION

SNAPPING UP THE PAST

WANT TO GET GRANDMA AND GRANDPA'S PICTURES INTO THE SMITHSONIAN? ONE CURATOR JUST MAY BE INTERESTED

WHEN MICHELLE DELANEY started to research World War II photography two years ago, she discovered a hole in the National Museum of American History's archives. There were hundreds of pictures by well-known photojournalists such as *Life*'s Margaret Bourke-White and Robert Capa and thousands from official military cameramen, but fewer than 50 photographs taken by soldiers and their families. "Personal photographs record life in a different way than the images of military combat or professional photojournalism," says Delaney, a curator at the museum. So she scoured eBay and visited flea markets for World War II-era snapshots, acquiring a few hundred pictures for the collection. With the 60th anniversary of the end of the war, she says her quest grows more urgent, as the popula-

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"Snapshots are so compelling," says the Getty Museum's Weston Naef, "because they are so honest and clear."

tion of veterans dwindles.

Among the first to donate a collection of pictures to Delaney's project was her mother, Barbara Titanic. One, a faded black-and-white taken with a Brownie Kodak in 1944 by Delaney's grandfather, shows her then 5-year-old mother in a plaid coat standing next to her great uncle, Sam Inzerra, a sailor home on furlough from a tour in the Pacific. Inzerra wears a smart Navy peacoat, his white sailor's cap and a large cockeyed grin. It was just the sort of "cherished moment" that Delaney has been looking for.

She has found that families, including her own, are often reluctant to give up heirlooms. It wasn't until Delaney made copies of the originals for her mother that Titanic finally agreed to donate them.

Delaney is one of a growing number of photographic curators and collectors searching for everyday pictures. The Getty Museum in Los Angeles recently exhibited nearly 200 family photographs. Getty curator Weston Naef says that interest in "vernacular photography" stems from the digitalization of photography—oh-so-easy delete buttons, CD-formatted photo albums—that "will end the era of snapshots as we know them." Naef believes photography aficionados are searching for these images out of a sense of nostalgia for the dying form—and for the past that the pictures capture. Plus, he says, "snapshots are so compelling to the eye because they are so honest and clear. You can't stop looking at them."

For historians, snapshots also provide a zoom lens into the past. While Greatest Generation grunts were not the first troops to routinely take photographs, they were the first to do so in large numbers, as cameras became small, lightweight and affordable; in 1940, a Kodak Brownie Reflex cost only $5.25. "I'm collecting from the World War I, Korea, Vietnam and even the Iraq periods," Delaney says, "but we want to hear from the World War II veterans while they are still around to tell us firsthand how they felt aboard ship, on furlough, at the front and during victory celebrations." Some of her recent finds were shown in the "WWII Photographic Perspectives" exhibition, which closed in May.

She hopes her project will inspire families to do more than rummage through a dusty old shoebox in the attic. "I want to generate conversation in families and get people to talk more about the experiences of their ancestors during the war," Delaney says. "This is an effort to make people understand that they are a part of history." —*ULRICH BOSER*

E-mail Michelle Delaney at the Museum of American History: DelaneyM@si.edu.

PHOTOGRAPHIC HISTORY COLLECTION, NATIONAL MUSEUM OF AMERICAN HISTORY, S.I. (2); JESSIE COHEN / NATIONAL ZOOLOGICAL PARK, S.I.; NATIONAL ZOOLOGICAL PARK, S.I.

PANDA-MONIUM

Mei Xiang, 7, gave birth July 9 to the first giant panda born at the National Zoo in more than a decade. The delivery seemed to surprise the 245-pound Mei—her male cub, typical for a giant panda, weighed only about 3 to 5 ounces at birth—but she has been "very attentive," says veterinarian Sharon Deem. Zoo biologists had monitored Mei's urinary hormones and behavior to pinpoint her ovulation before using a Zoo-developed, fiber-optic-guided catheter to inseminate her with sperm from her 8-year-old mate, Tian Tian (above, at right).

Newborn pandas are so fragile that Zoo staffers waited three weeks to examine the cub (left), which was one foot long on August 2. (Three cubs born at the Zoo in the 1980s died within a week.) As we went to press, Zoo staff were betting on whether the scrappy cub would look more like mom or dad.

—*CHRISTINE DELL'AMORE*

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The comet collision (above) gave scientists a rare opportunity to "hit it with a hammer and see how it rings," says Melnick (left).

Smash Hit

ON HAND FOR A HISTORIC CELESTIAL CRASH, AN AGING SATELLITE TAKES A FINAL BOW

WHEN NASA steered its Deep Impact probe into a comet on July 4, capturing imaginations worldwide with a spectacular crash, a six-year-old Harvard-Smithsonian satellite taken out of hibernation just for the occasion had a front row ticket to the event, the first time scientists engineered a collision with a heavenly body.

The satellite, from the Harvard-Smithsonian Center for Astrophysics, in Cambridge, Massachusetts, was one of several instruments in space that along with ground-based ones, monitored the comet before, during and after the fiery collision intended to probe the comet's inner makeup. Astronomers have long regarded comets as time capsules that might harbor clues from the creation of the solar system roughly 4.5 billion years ago. That's largely because the streaking bodies of dust, rock and ice have presumably not been affected by the enormous geological, climatic and other forces that have transformed moons and planets such as Earth.

NASA's Deep Impact probe, an 820-pound copper missile about the size of a washing machine, was fired from an unmanned spacecraft. A day later, it crashed into the Tempel 1 comet, which is about half the size of Manhattan and orbits the sun every 5.5 years. Analysis of the resulting debris and chemical reactions may reveal if its core is slushy or solid rock and ice, says Gary Melnick, the principal investigator for the Harvard-Smithsonian satellite. "Everything we know about the larger solar system we learn by sitting back and letting it come to us," he says. "This was a rare occasion when we human beings could go out and touch a celestial object."

When Melnick's satellite first went into space, in December 1998, scientists expected it to have a three-year life span. It was the first orbiting instrument to read "submillimeter radiation," a type emitted by water and oxygen molecules inside dense, hot vapor clouds between stars. The radiation, which is largely blocked by Earth's atmosphere, gives scientists an idea of how gas clouds make stars. The instrument, called the Submillimeter Wave Astronomy Satellite (SWAS), provided a steady stream of data for 5.5 years—three years longer than expected—until scientists turned it off in July 2004. This past June, they powered it up again to measure water vapor released by the Tempel 1 comet from 81 million miles away. Surprisingly, SWAS found that the crash released no additional water from the comet. Why not? Scientists say they won't know until all the data are in. Lucy Ziurys, an astrochemist and director of the Arizona Radio Observatory, speculates that the probe may have smashed into a rocky part of the comet where ice was scarce.

SWAS was scheduled to be turned off again in August. It might continue orbiting and eventually burn up in the atmosphere, or scientists might use it again, to test Earth-to-satellite communications. Either way, Deep Impact was a dazzling moment for the little satellite that could. "A great last act," Melnick says.

—*CHRISTINE DELL'AMORE*

WHO'S COUNTING?

32

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JASON GROW; NASA / JPL-CALTECH / UMD; NATIONAL MUSEUM OF AMERICAN HISTORY, S.I.

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THIS MONTH IN HISTORY

SEPTEMBER ANNIVERSARIES—MOMENTOUS OR MERELY MEMORABLE

70 YEARS AGO: DAM IT!
Hailing the builders of an "engineering victory of the first order," Franklin D. Roosevelt dedicates the completed Hoover Dam September 30, 1935. The towering span across the Colorado River—at 726 feet it is then the world's tallest dam—takes 21,000 people four years and 3.25 million cubic yards of concrete to build. The power flows in 1936, and by 2005 the dam will generate both electricity (4 billion kilowatt-hours—enough for 1.3 million people) and controversy: environmentalists argue that dams destroy natural habitats and ecosystems.

225 YEARS AGO: MAJOR BETRAYAL
In an act of treachery that makes his name a synonym for "traitor," Maj. Gen. Benedict Arnold (near right), hero of the Revolutionary War battle of Saratoga and commander of the American fort at West Point, turns over drawings of the strategic stronghold to British spy Maj. John André (far right), in exchange for £20,000. The plot is discovered when André is caught on September 23, 1780, with the plans in his boot. André is hanged, and Arnold flees to England, where he dies at age 60, ignominious and untrusted, in 1801.

90 YEARS AGO: ALL DOLLED UP
Inspired by his ailing daughter Marcella's favorite rag doll, cartoonist Johnny Gruelle patents the design for Raggedy Ann on September 7, 1915. Ann's popularity takes off when, in 1918, Gruelle begins publishing a series of moralizing children's books starring the doll with the candy heart. Brother Raggedy Andy joins the adventures in 1920. Gruelle dies in 1938, but "people don't want to let go of Raggedy Ann," says granddaughter Joni Gruelle; today collectors pay thousands for an original.

170 YEARS AGO: EVOLUTIONARY IDEA
While circling the world in the HMS *Beagle*, naturalist Charles Darwin reaches the Galápagos Islands in September 1835. Amazed that "islands formed of precisely the same rocks, placed under a quite similar climate, rising to a nearly equal height [could be so] differently tenanted," Darwin on his return to England spends 23 years formulating an explanation for this and other observations. He publishes his theory of "natural selection" in *On the Origin of Species* in 1859. Darwin dies in 1882, age 73.

75 YEARS AGO: TALE OF THE TAPE
In a quest to create a waterproof tape, 3M engineer Richard Drew, 30, tries coating a new material called cellophane with adhesive. After a year of tinkering, on September 8, 1930, Drew sends a batch of his new "Scotch" tape to a food-packaging company to test. It sticks. Though sales in 1930 total only $33, it isn't long before thrifty folk are taping everything from cracked turkey eggs to torn dollar bills. Today enough tape is sold each year to wrap the earth 165 times.

—ALISON McLEAN AND CHRISTINE DELL'AMORE

20 YEARS AGO: LOST AND FOUND
American oceanographer Robert Ballard discovers the *Titanic* 2.5 miles underwater on September 1, 1985. The 883-foot vessel, touted on its launch as "unsinkable," has lain submerged since ramming an iceberg in the North Atlantic April 14, 1912. Using a new, unmanned deep-sea robot, Ballard, the leader of a joint U.S.-French team searching for the liner, scans the ocean floor for 11 days when, as he later recalls, "Bang, there it was." Some 700 people survived the *Titanic*'s sinking; 3 are still alive.

CLOCKWISE FROM TOP LEFT: HULTON ARCHIVE / GETTY IMAGES; GRANGER COLLECTION, NEW YORK; RUSS BERRIE & COMPANY; RAGGEDY ANN & ANDY IS A REGISTERED TRADEMARK OF HASBRO; JEFFREY MORGAN COLLECTION / MARY EVANS PICTURE LIBRARY; EMORY KRISTOF / NATIONAL GEOGRAPHIC IMAGE COLLECTION; 3M

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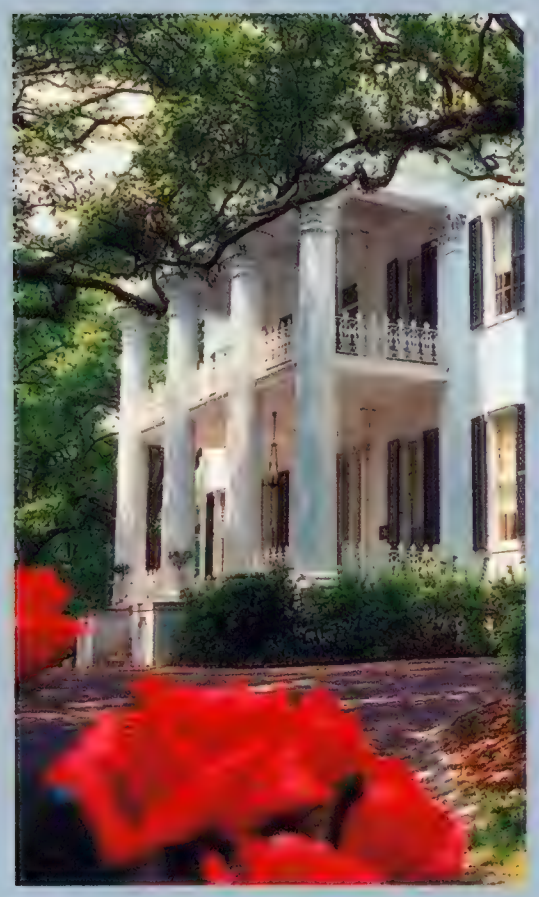

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SEPTEMBER 2005 VOLUME 36, NUMBER 6

BACK FROM

A CHEERFUL ENDANGERED SPECIES STORY?

It's as rare as an ivory-billed woodpecker. Yet the recently reported sighting of this "ghost bird," long believed extinct, has driven home the message that not all such stories end badly. So we looked for other animals that have made a comeback since Americans began protecting them in earnest a century ago.

In 1900, Congress passed the Lacey Act, which prohibited interstate trade of wildlife taken illegally. Efforts to safeguard the nation's natural heritage culminated in the 1973 Endangered Species Act (ESA), signed into law by President Richard Nixon. It requires federal authorities to identify threatened or endangered animal and plant species and to help them recover, often by restricting how their habitats may be used. The ESA is supplemented by scores of conservation, hunting and antipollution laws, and the nation's protected lands—almost a third of the United States is publicly owned. But for 30 years the ESA has been the key to conservation. Today, more than 1,200 plants and animals are listed under the law as threatened or endangered, and thousands more are "species of concern."

Now the Endangered Species Act itself is threatened. Because the ESA can restrict development, White House and Congressional critics charge that the law places the well-being of animals over that of people. Craig Manson, a top Interior Department official, said in November 2003 that protecting endangered species is "not a priority." Representative Richard Pombo (R-CA), chair of the House Resources Committee, is drafting legislation that would blunt the law's force by making it even more difficult to list a species as endangered.

ESA supporters protest that weakening the law would have a far-reaching impact. Scientists have only begun to understand how living things interact, and eliminating any one species can disrupt an entire community of living things. And it would be tragic to lose species, such as plants that produce cancer-fighting compounds, before scientists have had a chance to study them. Without the ESA, advocates say, many species would join the passenger pigeon, the Eastern elk, the blue pike, the Santa Catalina monkey flower and the estimated 500 other species in the United States that have vanished in the past few hundred years, victims of overhunting, overharvesting or property development. As Harvard biologist E. O. Wilson has said, destroying plant and animal habitats and the untold diversity of life within them "is the folly our descendants are least likely to forgive us."

But what does it take to save a species? We sent veteran environmental reporter Daniel Glick to investigate. Here, his ten success stories.

Worth More Alive Than Dead

HAWAIIAN GREEN SEA TURTLE

Status: Threatened
Year listed: 1978
Average adult weight: 300 pounds

On Hawaii's Big Island, marine biologist George Balazs seems to know most of the turtles by name—or at least by their markings and tags. He conducts what may be one of the longest continuous monitoring of any sea reptile, an effort of 34 years, and has presided over a cultural makeover that has turned the sea turtle, once a popular menu item, into a star of a multimillion-dollar tourist industry. But Balazs credits the giant reptile itself. "The *honu* touch your heart," he says, using the Hawaiian word for turtle. "These turtles are their own best ambassadors."

For decades, Hawaiians hunted the animals for their skin, which was turned into handbags, and their meat, a delicacy. "In the 1970s, a turtle was a hundred dollar bill," says Balazs. After he witnessed fishermen unloading a boat full of live green sea turtles bound for market in 1969, he worried that the species wouldn't breed fast enough to sustain the demand. So he made an inventory of nesting female turtles at the animals' main breeding site: the French Frigate Shoals, an atoll about 500 miles west of Hawaii in an area that had been designated a wildlife sanctuary by President Teddy Roosevelt in 1909. In 1973, his first year of fieldwork, Balazs counted a mere 67 nesting females, not enough to compensate for the rate at which Hawaiian green sea turtles were being hunted.

Largely because of Balazs' research and advocacy, the U.S. Fish and Wildlife Service (FWS) in 1978 classified the Hawaiian green sea turtle as threatened under the ESA. Killing a honu became a federal offense. The green sea turtle made progress, despite its slow reproductive pace: females reach sexual maturity at an average age of 25, and swim from Hawaii to their nesting grounds and back—a 1,000 mile round trip—every three or four years. (In the 1980s, an outbreak of fibropapilloma, a mysterious disease that afflicts many turtle species, dealt the animals a setback, but the disease seems to be abating.) Balazs estimates the number of nesting females has risen to over 400 annually—a sixfold increase since the early 1970s. This rebound stands in contrast to other sea turtle species, five of which—leatherback, loggerhead, Kemp's ridley, olive ridley and hawksbill—remain

FRANS LANTING

THE BRINK

Not every endangered species is doomed. Thanks to tough laws, dedicated researchers, and plenty of money and effort, success stories abound **BY DANIEL GLICK**

Hawaiian green sea turtles are out of the soup.

endangered in all or part of their ranges around the world.

As the honu began reappearing near several Hawaiian islands, including the Big Island and Kauai, snorkeling tour operators, beachfront hotel owners and even wildlife art dealers recognized the enormous potential of turtle tourism. This particular "watchable wildlife," like the boon in whale-watching tours and even programs to view wolves in Wyoming, underscores the truism that many once-hunted critters are worth more alive than dead.

On a residential stretch of beach in the Puako neighborhood on the Big Island, Balazs and a team of high-school students from the Hawaii Preparatory Academy spend the day capturing, measuring and tagging turtles taken from the turquoise waters. They've tagged thousands of turtles over the past two decades.

Diane Campbell, who lives in the neighborhood, comes down to watch. "I love the honu," she says. She is wearing a T-shirt with a picture of the turtle and a message: "In recent years their numbers have declined due to disease and the destruction of their native habitat." Balazs asks if she purchased the shirt recently.

"No, it's at least ten years old," Campbell says. "I cheer every time I put it on."

DANIEL GLICK, of Colorado, is the author of Monkey Dancing: A Father, Two Kids, and a Journey to the Ends of the Earth.

More Than a Symbolic Victory

BALD EAGLE

Status: Threatened, awaiting removal from list
Year declared endangered: 1940
Lowest count in lower 48 states: 417 nesting pairs

In 1782, the Second Continental Congress incorporated the bald eagle into the first great seal of the United States as a symbol of "supreme power and authority." Unlike the king's England, where wildlife was the exclusive property of royalty, in this new nation wild animals belonged to all the people.

By the 1930s, the national symbol was in trouble. Bald eagles, once soaring over most of the country by the hundreds of thousands, had plummeted in number to an estimated 10,000 pairs by the 1950s. Hunting, land clearing and accidental poisoning (eagles often ate toxic meat set out by ranchers to kill wolves and other predators) contributed to the decline. In 1940, Congress jumped to the fore with the Bald Eagle Protection Act, which acknowledged the scientific and political reasons to conserve the distinctive white-headed bird with a seven-foot wingspan. "The bald eagle is no longer a mere bird of biological interest but a symbol of the American ideals of freedom," the law states. It prohibited the killing of bald eagles for virtually any reason.

If these bald eagles should mate, their eggs will likely have strong shells.

But the introduction of DDT in 1945 dealt the animal a critical blow. The pesticide, sprayed far and wide to eradicate mosquitoes and agricultural pests, crept into the food chain. Fish ate exposed bugs, eagles and other birds ate pesticide-laced fish, and the DDT ingested by the birds so thinned their eggshells that chicks couldn't survive. By 1963, only 417 bald eagle nesting pairs were found in the lower 48.

In 1972, ten years after Rachel Carson's *Silent Spring* publicized the insidious threat of DDT, the U.S. Environmental Protection Agency banned the pesticide. Still, the hunting and chemical regulations would not have been enough to revive the bald eagle. The passage of the ESA provided critical help by protecting the bird's habitat. Other federal laws would also contribute. Efforts to decontaminate the Chesapeake Bay, prompted by the Clean Water Act, benefited the eagle by slowly reducing harmful pollutants from prime bald eagle feeding grounds.

Widespread affection for the emblematic bird also made a difference. Eagle lovers monitored nests, educated the public and campaigned to close nesting areas during the breeding season. The U.S. Fish and Wildlife Service (FWS) banned hunters from using lead shot nationwide, which can poison eagles and other raptors that scavenge waterfowl that have been struck by the shot. Meanwhile, the eagle itself adapted to living near people—even setting up nests a few miles from the U.S. Capitol.

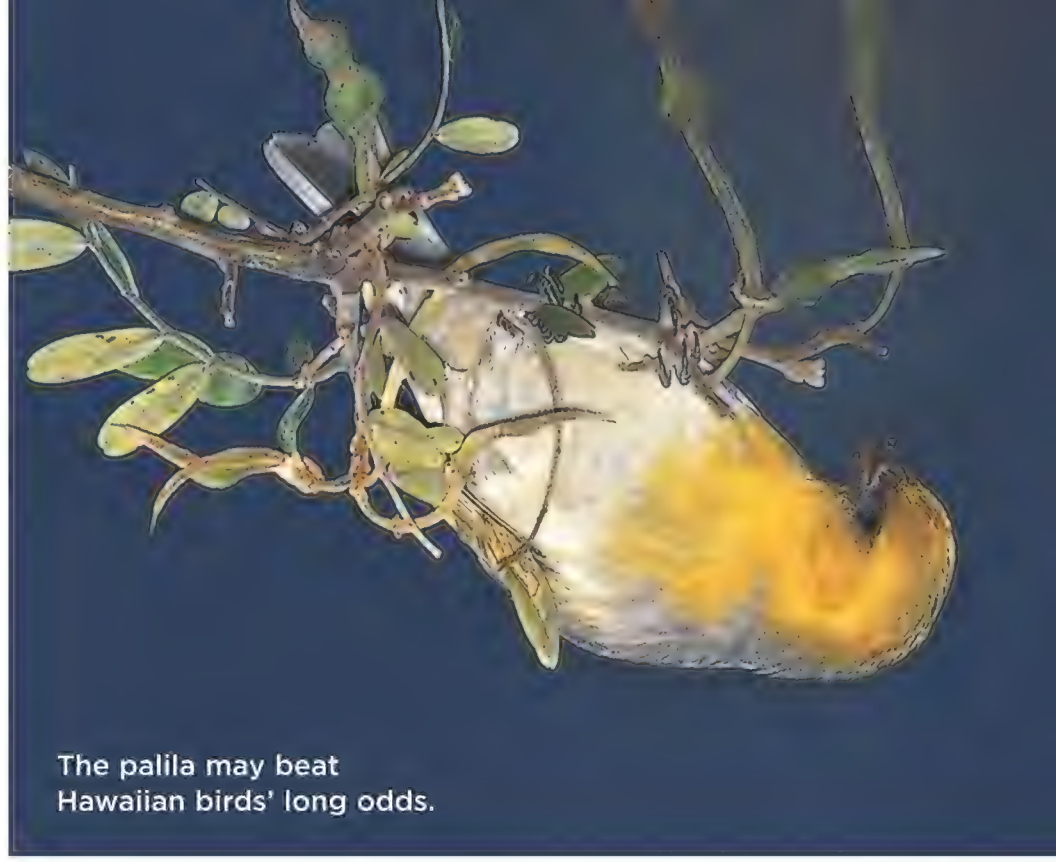
In 1995, wildlife authorities changed the bald eagle's status from endangered to threatened, an important moment in conservation history. Today, with about 7,678 pairs of bald eagles in the lower 48, the bird awaits a final OK to be taken off the ESA's threatened list, a move that many anticipate will come quickly. "People want success," says Jody Millar, Bald Eagle Monitoring Coordinator for the FWS, in Rock Island, Illinois. She says that the recovery of the beloved national symbol has generated public acceptance of conservation measures. "No government can protect a species if the public doesn't want it."

An Island Within an Island

PALILA

Status: Endangered
Year listed: 1967
Feeding habits: Finicky

PAUL BANKO walks along the arid slopes of the 13,796-foot-high Mauna Kea volcano on Hawaii's Big Island. He's searching for a yellow-crowned songbird called the palila. He hears the trilled warble that gives the bird its onomatopoeic name, but he doesn't actually see one. "Typical Hawaii birding experience," Banko deadpans. For nearly two decades, Banko, a U.S. Geological Survey wildlife biologist, has sought to reverse the palila's decline by working to restore its habitat and coaxing the birds to colonize another territory. The bird, a type of Hawaiian honeycreeper, lives almost exclusively on seeds from the increasingly scarce mamane tree.



The palila may beat Hawaiian birds' long odds.

The state's flora and fauna have long been vulnerable to habitat loss, invasive species, overharvesting and disease. Indeed, Hawaii is home to a quarter of all the United States' animals and plants listed under the ESA, with more than 300 threatened or endangered species, more than 100 candidate species and more than 1,000 species of concern. Almost half of Hawaii's native bird species have become extinct.

Human activity has devastated Hawaiian birds and other wildlife since Polynesians first settled the islands some 1,600 years ago. Stowaway rats that leapt from their canoes preyed on birds' nests. Several species of flightless geese, prized as food, were extinguished. Other birds were culled for their plumage, and Hawaiian kings cleared forests for agriculture. Europeans, arriving in the late 18th century, brought mosquitoes that later transmitted avian pox and malaria, against which native songbirds had little resistance. Introduced sheep, pigs, cats and cattle compacted soils, ate mamane seedlings or devoured nestlings. Ranchers cleared forests for cattle pastures. Mongooses were imported to control the rats, but because mongooses hunt during the day, when rats hide, the mongooses ate ground-nesting birds instead. The palila vanished from the islands of Kauai and Oahu probably before 1800.

Hawaii's endangered species experience is instructive, Banko says, because the destruction and fragmentation of habitats as well as the domination of native species by invaders are the root causes of many species' decline. "We see this as a microcosm of what's happening on the continent in terms of watching ecological processes unravel," he says. The process is just more obvious on a real island than on one of the ecological islands that increasingly occur on the mainland—isolated habitats surrounded by highways, strip malls and housing developments.

The palila was one of the first species to be protected under the ESA when an early version of the law passed in 1966. Still, state authorities did little until 1978, when the

R. & N. BOWERS / VIREO; P. 56 STEVE BLOOM

Sea otters, sometimes known as clowns of the sea, have surprised Californians.

palila did what any red-blooded American bird would do: it sued. In *Palila v. Hawaii Department of Land and Natural Resources* (the first time a bird was a plaintiff in a lawsuit, which was brought by the Sierra Club Legal Defense Fund), a federal court ruled that under the ESA, the state had to prevent further damage to the bird's habitat. In the 1990s, when the U.S. Army proposed building a road through critical palila habitat, the ESA dictated that the military pay nearly $14.6 million to fund palila restoration projects.

By then, most palila were confined to a 12-square-mile forest on the west slope of Mauna Kea, between 7,000 and 9,000 feet. This lone population of about 3,000 birds easily could have been wiped out by fire, storms or a disease that strikes mamane trees. With the military's mitigation money, Banko and co-workers set out to expand the palila's existing forest and establish a new palila population on Mauna Kea's north side.

Banko and others netted palila on the west slope, equipped them with tiny radio transmitters and moved them to the north slope. Most of the birds simply flew the 12 miles home. This past March, however, the researchers relocated another 75 wild palila, and some appear to have stayed put. At the same time, Alan Lieberman, of the Zoological Society of San Diego's Center for Reproduction of Endangered Species, along with his colleagues at Hawaii's Keauhou Bird Conservation Center, have bred palila in captivity and released 15 of the birds in the northern habitat. Though some died or disappeared, Lieberman says, the survivors appear to be acting like wild palila, and at least one pair is mating.

On Mauna Kea's north side, Banko walks around a forest of 20-foot-high mamane mixed with an occasional koa and sandalwood tree. Over a hand-held radio, he receives a report from one of his field researchers: there are five palila in a tree half a mile away. The tree stands in the middle of what the researchers have dubbed "palila paradise," where they've spotted 20 of the birds. "I think the palila will colonize this area," Banko says, but he acknowledges it might take decades to build a community that won't need to be supplemented with captive-bred or relocated birds. He spots a female palila flitting in and out of the mamane tree. Everybody spies her activity through binoculars. After a few minutes, it's obvious what she is doing: building a nest.

A Clown Makes a Comeback

SOUTHERN SEA OTTER

Status: Threatened
Year listed: 1977
Skill: Uses tools (rocks, shellfish) to obtain food

HUNDREDS OF THOUSANDS of sea otters once ranged from Baja California to northern Alaska and across the Bering Strait to Russia and Japan. The animal was thought to have been eliminated from the California coast in the early 20th century, despite a 1911 international treaty that protected sea otters from the fur trade. In 1938, biologists made a startling announcement almost like that of the recent ivory-billed woodpecker's rediscovery: up to several hundred animals were living near Big Sur. With that news, a rocky conservation success story began unfolding.

Over the next four decades, in the absence of hunting

TOM AND PAT LEESON

pressures, the sea otter population in California climbed to approximately 1,800. But the otters faced new problems, including oil spills and some commercial fishermen who considered the otters competition (they are voracious eaters) and killed them. Commercial gill net fishing, a practice akin to dropping a curtain into the water and capturing almost anything that swims by, killed an estimated 1,000 sea otters between 1973 and 1983.

The otter's tale provides a lesson in why species protection is so urgent. Plants and animals in a particular region interact with one another in intricate and sometimes unknowable ways; the disappearance of a species can set off a cascade of problems. Take the sea otter in Alaska. Research biologist Jim Estes of the USGS Biological Resources Division suspects that overharvesting of whales in the Aleutian Islands in the 1990s prompted orcas, which eat other whales, to venture closer to shore and prey on sea lions, harbor seals and sea otters. As sea otters dwindled, one of *their* key foods, sea urchins, boomed. Sea urchins graze on kelp, so kelp forests declined. Without the kelp, crabs, clams, sea stars and many fish species suffered. In California, the decline of sea otters due to hunting and lost habitat had a similar outcome.

The southern sea otter of central California has been helped by the ESA and other laws, including 1980s regulations that moved gill net fishing farther offshore. In the late 1980s, a small otter population was relocated to an island off the coast to ensure a separate, distinct colony as a hedge against a calamitous oil spill or disease epidemic. Today, there are more than 2,500 California sea otters between Half Moon Bay and Santa Barbara, and the population appears stable. Sea urchins there are returning to normal, and kelp forests are thriving.

Who's Your Mommy?

WHOOPING CRANE

Status: Endangered
Population low point: 21 wild birds in 1941
Surrogate parents: Puppets, costumed people, ultralight planes

ONE OF THE MOST AUDACIOUS endangered species recovery efforts starts at the USGS Patuxent Wildlife Research Center in Maryland, between Baltimore and Washington, D.C. There, researchers breed whooping cranes and prepare them for life in the wild. That might sound simple, but the project uses special effects worthy of George Lucas. Even before a bird hatches, researchers subject the egg to recordings of a roaring motor, to accustom a fetal bird to the sound of its foster parent—an ultralight aircraft. Once the birds hatch, they're fed by crane puppets, and the people working with the chicks cover themselves in shapeless white sacks to prevent the birds from growing attached to humans. As the baby whoopers grow, they are taught to follow an ultralight equipped with a puppet crane head while a costumed pilot drives the plane in circles on the ground.

When the cranes are ready for the next step, at about 6 weeks of age, biologists ship them by private jet to the Necedah Wildlife Refuge in Wisconsin. There, the chicks learn to fly along after their aircraft parents. When it's time to migrate, the young cranes follow the ultralight to their wintering home, in Chassahowitzka National Wildlife Refuge in Florida (along the way, the plane stops at different private and public properties to allow the birds to eat and rest). "We show them the way once," says Heather Ray, who used to work for the group that runs the crane project, Operation Migration. After that, she insists, despite their odd upbringing, "these are wild birds."

The whooping crane, like the black-footed ferret in the Great Plains and the California condor, is inching back from the precipice of extinction. In 1941 the species vied with the ivory-billed woodpecker for the title of North America's most endangered bird. Only 21 whooping cranes were left in the wild, the population devastated by hunters, wetlands loss and fashion (their plumes topped ladies' hats). Conservationists were eager to revive the species, but they didn't know where to start: nobody knew exactly where migratory whooping cranes nested. Then, in 1954, firefighters found whooping cranes at the Wood Buffalo National Park in the Northwest Territories in Canada. Recovery efforts for this migrating bird with a seven-foot wingspan now had a multinational twist. A Canadian-American team created a new migration route for the birds from Wisconsin to Florida (there is also a nonmigratory whooping crane population, in Florida) to supplement the cranes' historic route from Canada to Texas, reasoning that bad weather or other problems along the single route could wipe out too many cranes.

By now, the whooping crane recovery program has used virtually every trick in the conservation biologists' toolbox: captive breeding, intensive training of nestlings, interna-

TOM AND PAT LEESON

tional cooperation, partnerships between government and conservation groups, habitat conservation and great gobs of public and private money.

Last July, the population hit a milestone of 338 whooping cranes in the wild, including captive-bred birds that have now made the migration without a motorized escort. Though still endangered, the species has come a long way from its double-digit nadir. "If we can save the whooping crane," she adds, "we can save all the other species." The achievement, she adds, is "the wildlife equivalent of putting a man on the moon."

Safe Harbors on Private Land

RED-COCKADED WOODPECKER

Status: Endangered
Year listed: 1970
Security measure: Pecks at pine tree bark to release pitch, which oozes down the trunk and stymies snakes

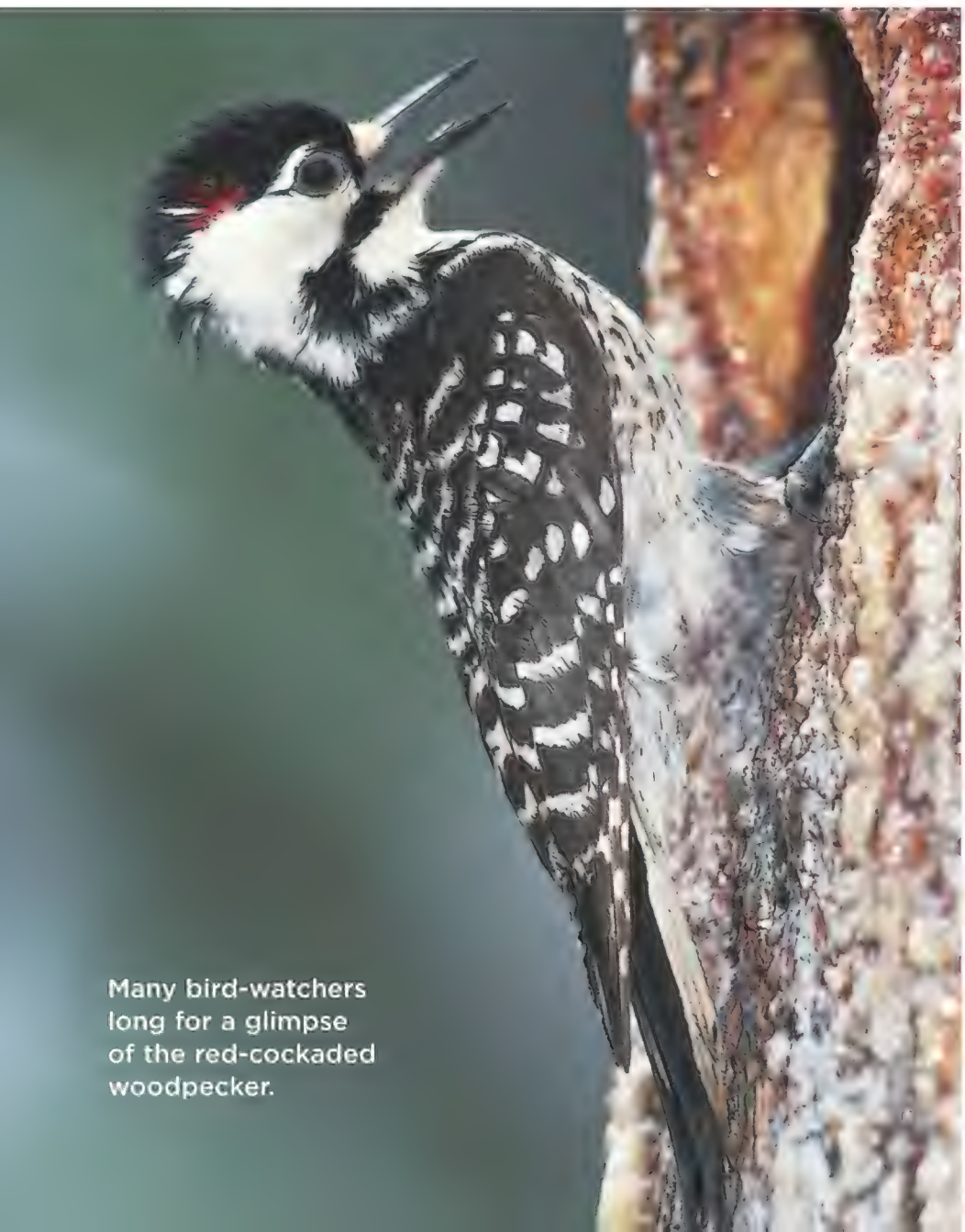
IN THE EARLY 1990S, while environmentalists and loggers in the Pacific Northwest battled over the northern spotted owl, sentiment was running high in the Southeast over the red-cockaded woodpecker (RCW). The medium-sized bird nests in mature longleaf pine forests, which have been heavily logged since the 19th century. After it was listed as endangered in 1970, some private landowners from the Carolinas to Mississippi deliberately cut longleaf pine trees to prevent the bird from squatting on their land. One driver's personalized license plate read "I eat RCWs."

The question of what to do with endangered species on private land had long vexed wildlife managers. Some property owners have opposed species conservation efforts because of concerns that they'll have to restrict commercial activities if an endangered species is identified on their land. The conflict over the woodpecker inspired a new approach to the problem, a cooperative agreement called Safe Harbor: if landowners agreed to help protect and restore a listed species, the federal government would waive particular ESA restrictions.

The first signatory of the agreement to save the red-cockaded woodpecker, perhaps the most successful Safe Harbor arrangement in the program's ten years, was the Pinehurst Resort (site of the 2005 U.S. Open) in North Carolina, which agreed to replant longleaf pines and log their private forest holdings near the resort with selective-cutting rather than clear-cutting. In return, U.S. wildlife officials agreed that Pinehurst and other landowners would not be subject to increased limits on development.

The Safe Harbor agreement, like other conservation measures, didn't succeed on its own. Biologists fostered the regrowth of longleaf pines by burning competing undergrowth. And they constructed nest boxes and set them into trunks of smaller trees to serve as suitable nesting cavities until forests matured. Today, the red-cockaded woodpecker population is an estimated 15,000.

Moral? "We've got to make landowners allies in species conservation," says Colin Rowan of Environmental Defense, a group that helped forge the Safe Harbor concept. More than 320 private landowners are enrolled in the Safe Harbor program, contributing to the protection of 35 threatened and endangered species on more than three million acres.



Many bird-watchers long for a glimpse of the red-cockaded woodpecker.

STEPHEN G. MAKA

Tinkering With Dams

CALIFORNIA WINTER RUN CHINOOK SALMON

Status: Endangered
Year listed: 1994
Maximum water temperature fry can withstand: 57.5°F

SALMON RUNS have dropped precipitously along the Pacific Coast—victims of dams, waterway diversions and riverside habitat destruction. But along the Sacramento River in California, winter chinook salmon runs have grown from a low of just 186 fish in 1994 to more than 10,000 this past winter.

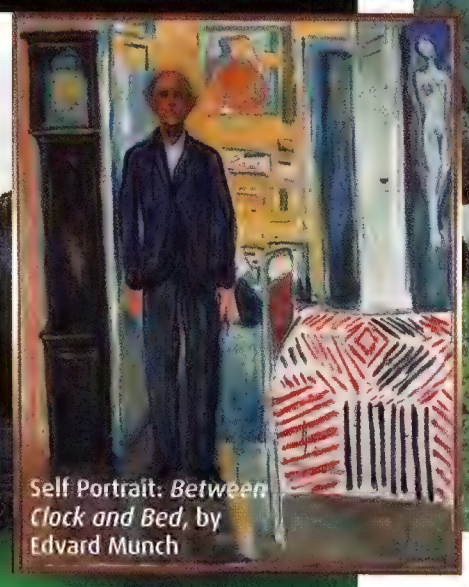
In this case, the salmon's decline can be linked to too much concrete. In 1945, Shasta Dam in Northern California shortened the length of river accessible to salmon, forcing the fish to spawn farther downstream. Next, the Red Bluff Diversion Dam, built in 1964 about 45 miles below the Shas-

CONTINUED ON PAGE 61

Midnight Sun at North Cape

Norwegian Coastal Voyage ship in the Geirangerfjord, on the UNESCO World Heritage List as of July, 2005

Vigeland Sculpture Park, Oslo


Self Portrait: *Between Clock and Bed*, by Edvard Munch

Northern Lights, Tromsø

get ready to explore norway

Whether you are seeking a getaway full of breathtaking nature or vibrant culture—or both—Norway has everything you desire.

NORWEGIAN FJORDS INCLUDED ON UNESCO WORLD HERITAGE LIST The latest news for the country is that on July 14, 2005, UNESCO included two Norwegian fjords, Nærøyfjord and Geirangerfjord, on their renowned World Heritage List. These two fjords now enjoy the same recognition as the Great Wall of China, the Great Pyramids of Egypt, Zambia's Victoria Falls and America's Grand Canyon. The Nærøyfjord is perhaps the most spectacular arm of the Sognefjord and the narrowest fjord in the world, at one point only 820 feet with mountains towering almost 6,000 feet above its tranquil waters. The Geirangerfjord, farther north, is known for its pristine beauty and magnificent waterfalls. Fittingly, UNESCO finds not just these bodies of seawater, but the entire landscapes, worthy of preservation.

The ruggedly beautiful city of **OSLO, NORWAY'S CAPITAL**, has also been cropping up on the radar of savvy international travelers lately, and for good reason. This central-Scandinavian city, situated at the tip of the Oslo Fjord, is a cosmopolitan destination full of sculpture parks, Michelin-starred dining, history, and vibrant nightlife. Oslo is surrounded by a stunning, hilly greenbelt accessible by public transportation or private car. The combination of big city life and easy access to untouched natural surroundings have made the compact city of Oslo a destination for travelers from all over the world.

OSLO'S CHARMS Among Oslo's top attractions are the Munch Museum, the Viking Ships Museum, the Kon-Tiki Museum, the Akershus Fortress, the Polar Ship "Fram" Museum, the Norwegian Museum of Cultural History, the National Gallery, the Vigeland Sculpture Park and Museum, the Ibsen

CLOCKWISE FROM TOP: JOHANNES JENSÅS/IN; PER EIDE/FJORD NORWAY; ANDERSEN/DE JONG; BJØRNAR G. HANSEN/DESTINASJON TROMSØ; GUNNAR STRØMN/VISIT OSLO

Museum and the Holmenkollen ski-jump, featuring the world's oldest ski museum. Norway's largest amusement park, Tusenfryd, is situated just outside the city.

Oslo, especially, is a wintertime paradise for those who love the outdoors. It's the only major European city that offers great skiing only minutes away from downtown—visitors can reach the alpine slopes and cross-country trails via the public subway. To extend the fun, lighting at many centers allows for night skiing until 10 p.m. Ice-skating, another fun winter pastime, can be enjoyed at Narvisen or Frogner Stadium public rinks. To thrill your kids, head to the top of the Korketrekker'n toboggan run. You can reach great speeds, and at the bottom of the run, you simply board the subway to get back to the top!

THE OSLO PASS is the insider's secret, and the best way to experience Oslo. Available at tourist information centers, at www.VisitOSLO.com, and at most city hotels, the Oslo Pass includes: Free admission to museums and sights, travel on public transportation, entry to some swimming pools, parking in municipal lots as well as discounts on sightseeing tours, car rental, restaurants and more.

THE NOBEL PEACE CENTER opened in the heart of Oslo on June 11, 2005, in presence of the royal families of Norway and Sweden and the 2004 Nobel Peace Prize Laureate Wangari Maathai. Opening weekend drew 5,000 visitors to the Center, which is set in a historic harborside train station that dates back to 1872. At the Nobel Peace Center, visitors can get to know the Peace Prize Laureates' achievements as well as the remarkable history of Alfred Nobel, and it will serve as hub for exhibits, films and installations on war, peace and conflict resolution. The British architect David Adjaye, the American designer David Small, and a number of other artists have contributed to the creation of the Center. Visitors to the Nobel Peace Center are welcome to experience the destination on their own, or as part of a guided tour; also on site are an interesting shop and a wonderful cafe. See Directory for more information.

FJORD NORWAY, the western part of the country, studded with beautiful bodies of water and spectacular mountainsides was named by *The Chicago Tribune* as one of its "21 Wonders of the World." Choosing your own pace is the key to the joys of Fjord Norway—whether you prefer white-water rafting or quietly watching the shifting reflections in the harbor as you peel shrimp on a dock. Cultural exploits are available around the region: Enjoy a live performance of a Grieg composition or listen to a traditional fiddler. Enjoy a walk on a glacier, join a deep-sea fishing excursion, go horseback riding along the old Postal Road, cycle the islands, or enjoy the calm beauty of Fjord Norway by the pool at a posh hotel.

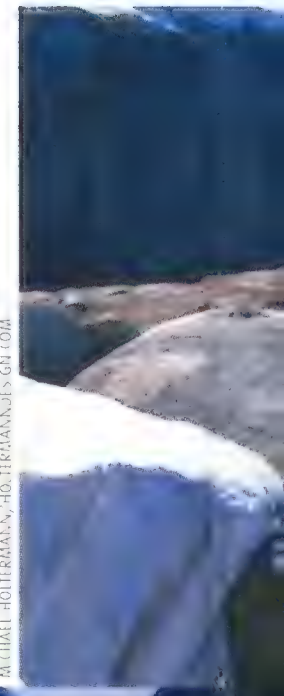
HISTORY AND CULTURE In addition to magnificent scenery, the cultural attractions and events in Fjord Norway make for a compelling trip, including: • Museums and historical buildings • Stave churches and other churches • Ancient buildings on UNESCO's World Heritage List (Bryggen, the Hanseatic Wharf in Bergen, and Urnes Stave Church in Luster) • Viking history and traditions • Fjord cruises on veteran ships and old sailing boats • Norwegian handicrafts • Art galleries and exhibitions • Concerts.

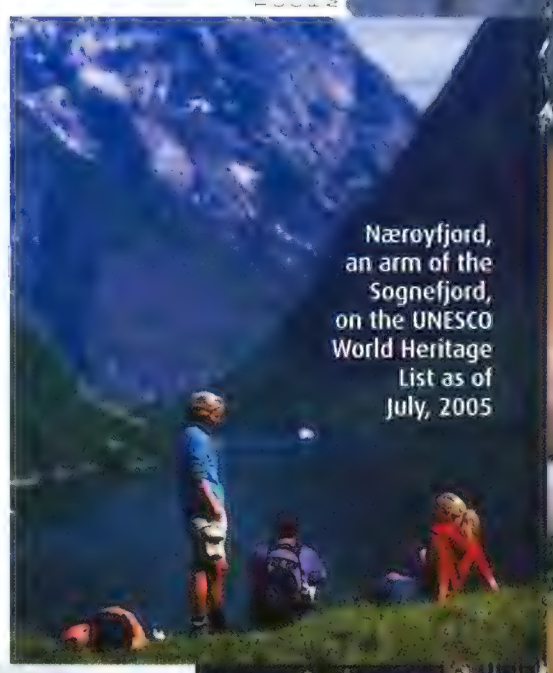
ACTIVE VACATIONS Fjord Norway offers a variety of soft adventures that everyone can enjoy, as well as activities that are ideal for travelers looking for extreme challenges. • Walking holidays in the mountains and easy nature walks • Cultural walking tours with guide • Glacier hikes and glacier climbing courses • Mountaineering and rock climbing courses • Horse riding • Boat charter and sailing • Canoeing and kayaking • White-water rafting tours • Bicycle tours • Winter skiing, and summer skiing on glaciers • Fishing • Diving • "CarWalks"—tours by car combined with hiking.

WATERFALLS Nine of the 20 highest waterfalls in the world are in Norway, and most of these cascade down the mountainsides of Fjord Norway. The Seven Sisters form an unrestrained veil of water as they plunge into the Geirangerfjord. Vøringsfossen is Norway's most famous waterfall because of its size and is a magnificent sight, located along the main road between Oslo and Bergen.

GLACIERS Eleven of Norway's 20 glaciers are in Fjord Norway, and educational centers staffed with experts will heighten the experience. Guests will have an unforgettable impression of the glaciers, with their endless stretches of white, its deep crevasses, and its magical light filtered through ice.

A third season of the TV series **NEW SCANDINAVIAN COOKING WITH ANDREAS VIESTAD** has just been announced. The series will as





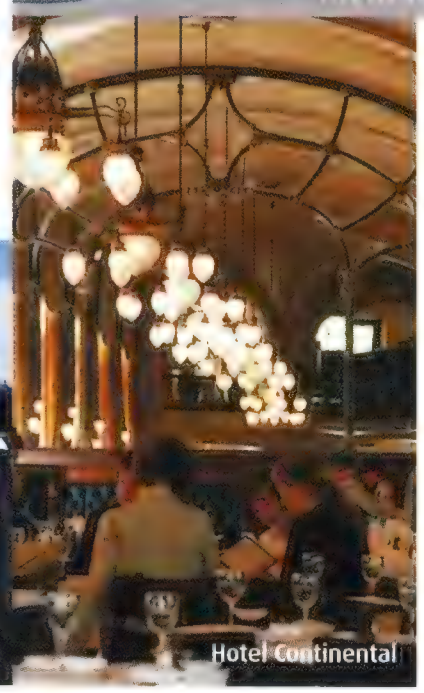
Nærøyfjord, an arm of the Sognefjord, on the UNESCO World Heritage List as of July, 2005

Nobel Peace Center

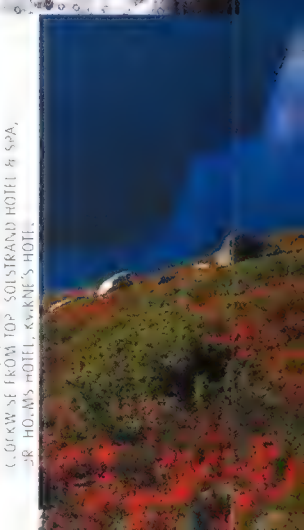
Norwegian fairytales

Nelson Mandela at the Nobel Peace Center

Ålesund



Hotel Continental



Troldhaugen, the home of Edvard Grieg

A Norwegian Coastal Voyage ship entering the narrow Trollfjord

Skiing in Holmenkollen

Bryggen, the Wharf, in Bergen, on the UNESCO World Heritage List

Supplement in select cabin categories mid-October to mid-March. See Directory for more information.

THE NORDIC COMPANY is a Scandinavian tour operator specializing in full-service travel arrangements for Americans since 1995, and offers reliable, responsive, unique, and affordable travel experiences, as well as escorted tours and customized journeys.

The Nordic Company provides seamless travel experiences by coordinating the very best in prestigious hotels, cruises and transportation services. Norway's fjords were recently selected by *National Geographic Traveler* magazine as the #1 destination in the world due to their breathtaking beauty and unspoiled character. The Nordic Company offers the finest combination of history, culture and spectacular scenery in our Flagship Program, Norway's Fjords and Countryside. This tour journeys to Oslo, Old World Bergen, through the scenic drama of the major Norwegian Fjords and their stunning surroundings, the Flåm Railway, and countryside villages. See Directory for more information.

Flying to Norway on **ICELANDAIR** will get your Scandinavia experience off to a great start. You'll enjoy Icelandair's sophisticated and friendly service onboard and you'll arrive at the world's most passenger-friendly airport. The Leifur Eiriksson Terminal of Keflavik International Airport, Icelandair's stepping stone to Europe, offers a pleasant environment for enjoying a snack or taking in some international Duty Free shopping before your flight to Oslo. And if you'd like to add another stamp to your passport, you can Take-A-Break in Iceland up to seven nights en route to Norway—at no additional airfare! Visit your professional travel agent or save and book online. See Directory for more information.

THE SMITHSONIAN ASSOCIATES present **NORWAY: A CENTENNIAL CELEBRATION** in association with The Royal Norwegian Embassy, His Excellency Knut Vollebaek, Ambassador of Norway—an exciting series of cultural activities and educational programs for audiences in Washington, D.C., Miami, Minot and Seattle, on the occasion of Norway's Centennial as a sovereign state, following the peaceful dissolution in 1905 of the union with Sweden.

A FEW HIGHLIGHTS OF WASHINGTON, D.C., EVENTS:
VISUAL MUSIC CONCERT WITH HÅKON AUSTBØ AT THE HIRSHORN MUSEUM (Sept. 11)
GARRISON KEILLOR: GOOD POEMS FOR HARD TIMES (Sept. 18)
HER MAJESTY QUEEN SONJA: THIS IS MY NORWAY (Sept. 19)
NORTHERN LIGHTS: THE ETHEREAL AURORA BOREALIS (Oct. 30)
EDVARD MUNCH, NORWEGIAN ICON (Nov. 16)
A CULINARY TOUR OF NORWAY WITH ANDREAS VIESTAD (Nov. 18)
IBSEN'S AND GRIEG'S PEER GYNT (Nov. 19)
GLEDELIG JUL! A NORWEGIAN CHRISTMAS FOR FAMILIES (Dec. 14)

Other Smithsonian events this fall include a series of Norwegian films, an exhibition of the Saami people at the National Museum of Natural History. To purchase tickets, or for information about these and other events in Miami, Minot, and Seattle, see Directory.

directory

For details and contact information about Norway, please see the below Web sites, and see the Readers Service Page to order brochures.

VISIT OSLO: www.VisitOSLO.com
NOBEL PEACE CENTER: www.nobelpeacecenter.org
FJORD NORWAY: www.fjordnorway.com
HISTORIC HOTELS: www.dehistoriske.com
SOLSTRAND HOTEL & SPA: www.solstrand.com
KVIKNE'S HOTEL: www.kviknes.no
DR. HOLM'S HOTEL: www.drholms.com
HOTEL CONTINENTAL: www.hotel-continental.no
NORWEGIAN COASTAL VOYAGE: 800-323-7436; www.norwegiancoastalvoyage.us
THE NORDIC COMPANY: www.nordicco.com; 888.806.7226
ICELANDAIR: www.icelandair.com; www.icelandairholidays.com; 800-223-5500
THE SMITHSONIAN ASSOCIATES: 202-357-3030; www.ResidentAssociates.org
INNOVATION NORWAY: www.visitnorway.com/us
NORWEGIAN EMBASSY: www.norway.org

CLOCKWISE TOP LEFT: PER NYBØ/BERGEN TOURIST BOARD; NORWEGIAN COASTAL VOYAGE; KIM HART/VISIT OSLO; WILLY HARALDSEN/BERGEN TOURIST BOARD

Norway · OSLO · explore Fjord Norway · MEMBER OF De historiske HISTORICAL HOTELS & RESTAURANTS · Nobel Peace Center Nobels Fredssenter · NORWEGIAN EMBASSY · Dr. Holms HOTEL Spesialist i trivsel og velvære! · Norwegian Coastal Voyage Inc. · The Nordic Company · SOLSTRAND · The Smithsonian Associates · INNOVATION NORWAY · ICELANDAIR · HOTEL CONTINENTAL

For salmon, spawning is difficult enough even without dams.

ta, near Redding, started blocking salmon from migrating up or down the river. Then, during a drought, Shasta Dam released warm water into the river in the summers of 1976 and 1977, to keep the streams flowing. The outcome for baby chinook was predictable: the fry fried.

In 1985, scientists petitioned the National Marine Fisheries Service to classify the fish as endangered. NMFS officials ruled that although the fish was decidedly in trouble, a formal listing under the ESA wasn't necessary. An Earthjustice attorney sued. While the case was pending on appeal, in 1990, U.S. officials classified the California winter run salmon as threatened.

Yet chinook populations in the Sacramento River continued to drop, and after another petition the fish was reclassified as endangered in 1994. The ESA then mandated, among other engineering changes, that Shasta Dam operators install a device that would pump deeper—and thus colder—water into the river. The ESA listing also compelled the federal government to clean up one of its worst Superfund sites, at Iron Mountain Mine near Redding, which had been contributing to salmon deaths by leaching heavy metals into the river. All told, federal and state agencies have spent more than $200 million to revive the salmon's winter run.

Not Glamorous, but Protected

KARNER BLUE BUTTERFLY

Status: Endangered
Year listed: 1992
Number of other butterflies listed as threatened or endangered: 44

THE KARNER BLUE BUTTERFLY once lived in 12 Eastern and Midwestern states and the province of Ontario, Canada. But as agriculture and development destroyed its prime habitats, including oak savanna and pine barrens, its numbers declined across its range by 99 percent or more.

The federal government declares species endangered, but subsequent recovery efforts draw on state and local agencies as well as federal ones, along with conservation organizations and private landowners. In Wisconsin, the heart of the Karner blue's range, the entire state helped bring this fluttering species back. Today, 38 different partners participate in a sweeping conservation plan that takes into account the butterfly's life history. When the caterpillars hatch in spring and summer, they require fields of lupine for food and shelter. So the Wisconsin Gas Company agreed to mow grass along its power lines later in the summer than usual, to give Karner blue caterpillars time to metamorphose into butterflies and fly away. The state highway department and other partner organizations also mow late, and they leave the grass long at the end of the growing season to help butterfly eggs survive the winter. Forestry companies and other partners delay herbicide and pesticide spraying on their lands until the fall, after lupine and other plants have died. "We will lose this species if we don't have institutionalized management," says Cathy Carnes, endangered species coordinator with the FWS in Wisconsin.

Restoration of the insect's habitat appears to be a boon to other scarce animals that share it, such as the endangered Kirtland's warbler (which breeds in Michigan but visits Wisconsin), the slender glass lizard, the eastern massasauga rattlesnake and the wood turtle.

To be sure, charismatic, symbolic or particularly cute endangered species often receive the lion's share of public attention and money, but the vast majority of endangered or threatened species are plants, unpretentious animals or insects like the Karner blue. The butterfly will never stir people's hearts quite like a bald eagle does, but its ESA listing prompted enough changes that the Karner blue stands a good chance of surviving. "We still have time to preserve what we have left," says Carnes.

The Karner blue provides a good excuse not to mow.

TOM AND PAT LEESON / PHOTO RESEARCHERS; WAYNE NELSON

The Chiricahua leopard frog lives in the desert's few wet spots.

Sharing Water During a Drought

CHIRICAHUA LEOPARD FROG

Status: Threatened
Year listed: 2002
Newly adopted habitat: Cattle watering tanks

ARIZONA RANCHERS Matt and Anna Magoffin earned an unofficial nomination to the Endangered Species Hall of Fame by hauling a thousand gallons of water per week to a stock tank on their ranch for four years, all to save a frog on its last legs.

Many Southwestern aquatic species have suffered in the past century. Invasive species have altered the desert habitat, fungal diseases have hit frogs and other amphibians, and ranching and the Sun Belt population boom have diverted water, disrupted river and stream habitats and destroyed seasonal watering holes. The Magoffins are part of a coalition called the Malpai Borderlands Group, which created a Safe Harbor agreement for the Chiricahua leopard frog after it was listed as threatened in 2002. Biologists estimate that the frogs have disappeared from 75 percent of their historic range, and today the frog population is at or near its lowest point ever. To help the frog, the Magoffin family rebuilt water tanks, put in wells, poured concrete ponds and moved tadpoles from drought-stricken pools to more reliable water sources.

Biologist Jim Rorabaugh of the FWS in Phoenix credits the Magoffins with paving the way for frog conservation on the one million acres where the Malpai Borderlands Group is active. Most of that land is public, controlled by Arizona, New Mexico, the U.S. Forest Service or the Bureau of Land Management, but much of it is owned privately by ranchers.

"We're a long way from recovering this species," says Rorabaugh. "But we've got some really good partnerships on the ground."

Life With a Top Predator

GRIZZLY BEAR

Status: Threatened in lower 48 states, but maybe not for long
Year listed: 1975
Maximum height: Seven feet when standing

"WELCOME TO Grizzly Country." The sign is at the entrance to the squat, concrete building that houses the Cody district office of the Wyoming Game and Fish Department. Mark Bruscino, the agency's bear management officer, says he's trying to "keep the peace between people and bears."

Grizzlies once roamed a vast swath of the Great Plains and Western states, but now occur only in isolated populations in Montana, Idaho, Washington and Wyoming. (They're doing fine in Alaska.) By the early 1970s, hunting and development pressures caused the grizzly population in the Yellowstone area to plunge to about 150 bears, many of which were raiding trash bins in the national park. In 1975, officials classified the species as threatened in the lower 48.

Today, Yellowstone and its surrounding area, most of which is national forest land, is home to more than 600 bears, and the FWS is considering taking the grizzly off the threatened species list. It is "the wildlife recovery success story of the century," Bruscino says. Not that it was easy. The great bear is slow to reproduce, reaching sexual maturity at 4 to 5 years of age. Females give birth to only one or two cubs every three to five years. And grizzlies require great expanses of wild country to make a living.

One important factor in the grizzly's rebound has been teaching people how to live with bears. That means keeping the animals away from humans so rangers or others don't relocate or shoot them. Near Cody, east of Yellowstone National Park, an eight-foot-high bear-proof fence protects a small schoolhouse. Some ranchers take their cow carcasses to the county dump rather than leaving them to attract ursine scavengers. (The state of Wyoming has reimbursed ranchers more than $500,000 since 1995 for livestock losses.) Before a dumpster can be certified as "bear-resistant," a 900-pound captive grizzly pounds away at a prototype filled with peanut butter and cookies. People put up electric fences around beehives (bears do love honey) and learn how to behave in a grizzly's presence (never look them in the eye, back away slowly).

The long-term prognosis for the Yellowstone bears is cloudy. Genetic inbreeding may hamper this population's survival. And conservationists worry that declaring the grizzly no longer threatened will open the Yellowstone area to increased oil, gas and residential development, which would fragment the grizzly's habitat even more and hamper, if not undo, the bears' progress.

Chris Servheen, the grizzly bear recovery coordinator for the FWS, says the bears have come back largely because people aren't killing them as much as they used to: "The most important habitat for bears is in the human heart."

CECIL SCHWALBE / USGS; P. 63 SHIN YOSHINO / MINDEN PICTURES

For some grizzlies, wildlife conservation efforts are just right.

Despite denials by government officials, slavery remains a way of life in the African nation of Niger

TEXT AND PHOTOGRAPHS BY PAUL RAFFAELE

BORN INTO BONDAGE

LIGHTNING AND THUNDER split the Saharan night. In northern Niger, heavy rain and wind smashed into the commodious goatskin tent of a Tuareg tribesman named Tafan and his family, snapping a tent pole and tumbling the tent to the ground.

Huddling in a small, tattered tent nearby was a second family, a man, a woman and their four children. Tafan ordered the woman, Asibit, to go outside and stand in the full face of the storm while holding the pole steady, keeping his tent upright until the rain and wind ceased.

Asibit obeyed because, like tens of thousands of other Nigeriens, she was born into a slave caste that goes back hundreds of years. As she tells it, Tafan's family treated her not as a human, but as chattel, a beast of burden like their goats, sheep and camels. Her eldest daughter, Asibit says, was born after Tafan raped her, and when the child turned 6, he gave her as a present to his brother—a common practice among Niger's slave owners. Asibit, fearful of a whipping, watched in silence as her daughter was taken away.

In the Nigerien village of Tajaé, a woman named Takany (with her great-grandson) says she was given as a slave to her owner when she was an infant. She is now 80 years old.

"From childhood, I toiled from early morning until late at night," she recalls matter-of-factly. She pounded millet, prepared breakfast for Tafan and his family and ate the leftovers with her own. While her husband and children herded Tafan's livestock, she did his household chores and milked his camels. She had to move his tent, open-fronted to catch any breeze, four times a day so his family would always be in shade. Now 51, she seems to bear an extra two decades in her lined and leathery face. "I never received a single coin during the 50 years," she says.

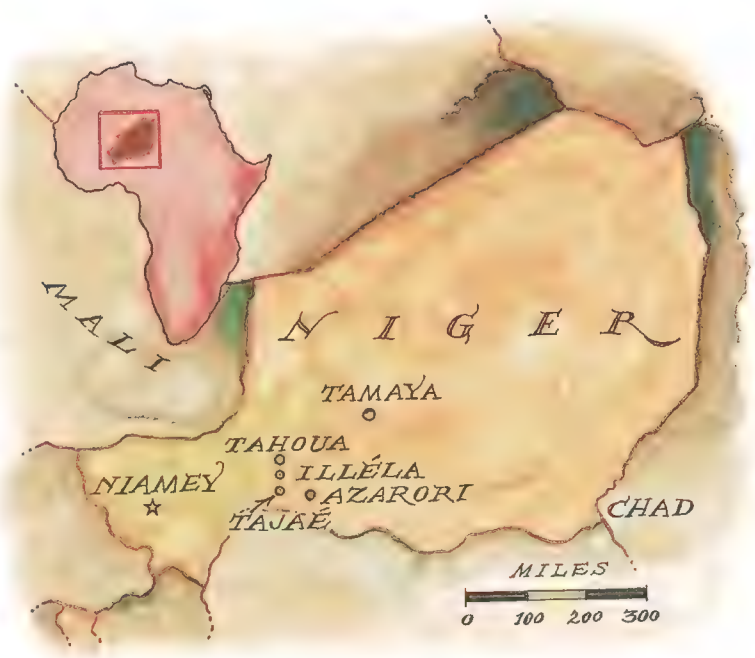
Asibit bore these indignities without complaint. On that storm-tossed night in the desert, she says, she struggled for hours to keep the tent upright, knowing she'd be beaten if she failed. But then, like the tent pole, something inside her snapped: she threw the pole aside and ran into the night, making a dash for freedom to the nearest town, 20 miles across the desert.

HISTORY RESONATES WITH countless verified accounts of human bondage, but Asibit escaped only in June of last year.

Disturbing as it may seem in the 21st century, there may be more forced labor in the world now than ever. About 12.3 million people toil in the global economy on every continent save Antarctica, according to the United Nations' International Labour Organization, held in various forms of captivity, including those under the rubric of human trafficking. The U.S. State Department's annual report on trafficking in persons, released in June, spotlighted 150 countries where more than a hundred people were trafficked in the past year. Bonded laborers are entrapped by low wages in never-ending debt; illegal immigrants are coerced by criminal syndicates to pay off their clandestine passage with work at subminimum wages; girls are kidnapped for prostitution, boys for unpaid labor.

The State Department's report notes that "Niger is a source, transit, and destination country for men, women and children trafficked for the purposes of sexual exploitation and forced domestic and commercial labor." But there is also something else going on in Niger—and in Chad, Mali and Mauritania. Across western Africa, hundreds of thousands of people are being held in what is known as "chattel slavery," which Americans may associate only with the transatlantic slave trade and the Old South.

In Niger, slaves were once marched to ports north and south for sale overseas. Asibit (above, at right) says she escaped last year. She now sells drinks for a living.



MAP: MIKE REAGAN

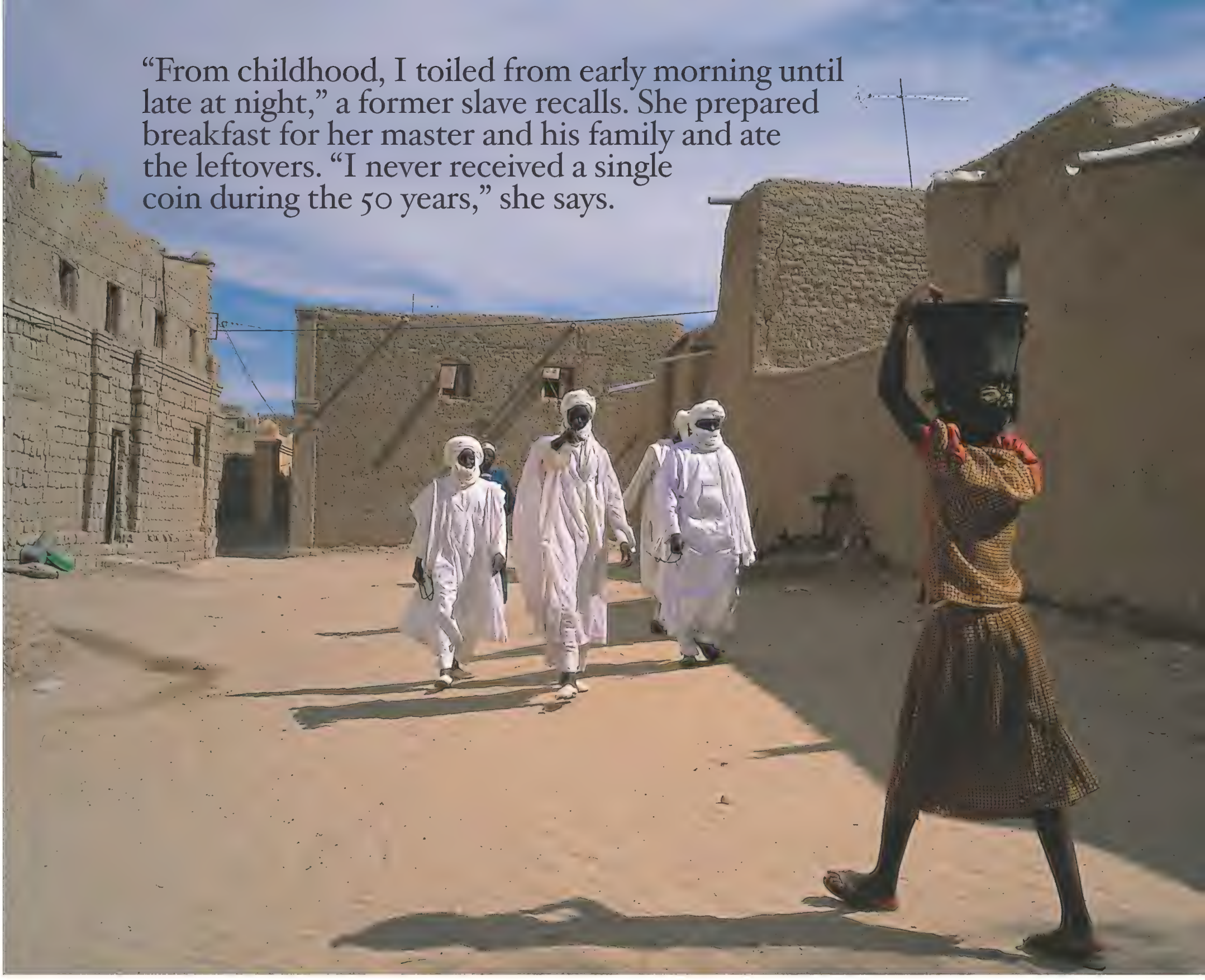
In parts of rural West Africa dominated by traditional tribal chieftains, human beings are born into slavery, and they live every minute of their lives at the whim of their owners. They toil day and night without pay. Many are whipped or beaten when disobedient or slow, or for whatever reasons their masters concoct. Couples are separated when one partner is sold or given away; infants and children are passed from one owner to another as gifts or dowry; girls as young as 10 are sometimes raped by their owners or, more commonly, sold off as concubines.

The families of such slaves have been held for generations, and their captivity is immutable: the one thing they can be sure of passing on to their children is their enslavement.

One of the earliest records of enslaved Africans goes back to the seventh century, but the practice existed long before. It sprang largely from warfare, with victors forcing the vanquished into bondage. (Many current slave owners in Niger are Tuareg, the legendary warlords of the Sahara.) The winners kept slaves to serve their own households and sold off the others. In Niger, slave markets traded humans for centuries, with countless thousands bound and marched to ports north or south, for sale to Europe and Arabia or America.

As they began exercising influence over Niger in the late 19th century, the French promised to end slavery there—the practice had been abolished under French law since 1848—but they found it difficult to eradicate a social system that had endured for so long, especially given the reluctance of the country's chieftains, the major slave owners, to cooperate. Slavery was still thriving at the turn of the century, and the chances of abolition all but disappeared during World War I, when France pressed its colonies to join the battle. "In order to fulfill their quotas each administrator [in Niger] relied on traditional chiefs who preferred to supply slaves to serve as cannon fodder," writes Nigerien social scientist Galy Kadir Abdelkader.

During the war, when rebellions broke out against the French in Niger, the chieftains


"From childhood, I toiled from early morning until late at night," a former slave recalls. She prepared breakfast for her master and his family and ate the leftovers. "I never received a single coin during the 50 years," she says.

Chattel slavery (tribesmen eye a water bearer in Timbuktu)—in which slave status is passed down from generation to generation—also persists in Chad, Mauritania and Mali.

once again came to the rescue; in return, French administrators turned a blind eye to slavery. Following independence in 1960, successive Nigerien governments have kept their silence. In 2003, a law banning and punishing slavery was passed, but it has not been widely enforced.

Organizations outside Niger, most persistently the London-based Anti-Slavery International, are still pushing to end slavery there. The country's constitution recognizes the United Nations' Universal Declaration of Human Rights (Article 4: "No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms"), but the U.N. has done little to ensure Niger's compliance. Neither has France, which still has immense influence in the country because of its large aid program and cultural ties.

And neither has the United States. While releasing this year's trafficking report, Secretary of State Condoleezza Rice reminded Americans of President Bush's plea in a 2004 speech for an end to human trafficking, but the U.S. Embassy in Niger professes little on-the-ground knowledge of chattel slavery there. In Washington, Ambassador John Miller, a senior adviser to Rice who heads the State Department's Trafficking in Persons section, says, "We're just becoming aware of transgenerational slavery in Niger."

The Nigerien government, for its part, does not acknowledge the problem: it has consistently said that there are no slaves in Niger. Troubled by the government's denials, a group of young civil servants in 1991 set up the Timidria Association, which has become the most prominent nongovernmental organization fighting slavery in Niger. Timidria ("fraternity-solidarity" in Tamacheq, the Tuareg language) has since set up 682 branches across the country to

PAUL RAFFAELE, a veteran Australian journalist, wrote about venomous jellyfish on the Great Barrier Reef for the June 2005 issue.

A wry grin spreads across his handsome face. "The government claims there are no slaves in Niger, and yet two years ago it legislated to outlaw slavery. . . . It's a contradiction, no?"

monitor slavery, help protect escaped slaves and guide them in their new, free lives.

The group faces a constant battle. Last March, Timidria persuaded a Tuareg chief to free his tribe's 7,000 slaves in a public ceremony. The mass manumission was widely publicized prior to the planned release, but just days before it was to happen, the government prevailed upon the chief to abandon his plan.

"The government was caught in a quandary," a European ambassador to Niger told me. "How could it allow the release when it claimed there were no slaves in Niger?"

THE FLIGHT FROM PARIS to Niamey, Niger's capital city, takes five hours, much of it above the dun-hued sweep of the Sahara in northern Africa. We land in a sandstorm, and when the jet's door opens, the 115-degree heat hits like a furnace's fiery blast. Niamey is a sprawl of mud huts, ragtag markets and sandy streets marked by a few motley skyscrapers. I pass a street named after Martin Luther King Jr., but the signpost has been knocked askew and left unrepaired.

Nigeriens walk with the graceful lope of desert dwellers. The city reflects the country, a jumble of tribes. Tall, slim Tuareg men conceal all but their hands, feet and dark eyes in a swath of cotton robes and veils; some flaunt swords buckled to their waists. Tribesmen called Fulanis clad in conical hats and long robes herd donkeys through the streets. The majority Hausa, stocky and broad-faced, resemble their tribal cousins in neighboring Nigeria.

"The same families have often been held captive by their owner's families for centuries," says former justice minister Soli Abdourahmane (above, right, with interpreter Idy Baraou).

Apart from the rare Mercedes Benz, there is hardly any sign of wealth. Niger is three times bigger than California, but two-thirds of it is desert, and its standard of living ranks 176th on the United Nations' human development index of 177 countries, just ahead of Sierra Leone. About 60 percent of its 12 million people live on less than $1 a day, and most of the others not much more. It's a landlocked country with little to sell to the world other than uranium. (Intelligence reports that Saddam Hussein tried to buy yellowcake uranium from Niger have proved "highly dubious," according to the State Department.) A 2004 U.S. State Department report on Niger noted that it suffers from "drought, locust infestation, deforestation, soil degradation, high population growth rates [3.3%], and exceedingly low literacy rates." In recent months, 2.5 million of Niger's people have been on the verge of famine.

A Nigerien is lucky to reach the age of 50. The child mortality rate is the world's second worst, with a quarter of all children dying under the age of 5. "Niger is so poor that many people perish daily of starvation," Jeremy Lester, the European Union's head of delegation in Niamey, tells me.

And Niger's slaves are the poorest of the poor, excluded totally from the meager cash economy.

Clad in a flowing robe, Soli Abdourahmane, a former minister of justice and state prosecutor, greets me in his shady mud-house compound in Niamey. "There are many, many slaves in Niger, and the same families have often been held captive by their owners' families for centuries," he tells me, speaking French, the country's official language, though Hausa is spoken more widely. "The slave masters are mostly from the nomadic tribes—the Tuareg, Fulani, Toubou and Arabs."

A wry grin spreads across his handsome face. "The government claims there are no slaves in Niger, and yet two years ago it legislated to outlaw slavery, with penalties from 10 to 30 years. It's a contradiction, no?"

Moussa Zangaou, a 41-year-old member of Parliament, says he opposes slavery. He belongs to a party whose leaders say it does not exist in Niger, but he says he is working behind the scenes toward abolition. "There are more than 100,000 slaves in Niger, and they suffer terribly with no say in their destiny," he tells me. "Their masters treat them like livestock, they don't believe they are truly human."

I'm puzzled. Why does the government deny there is slavery in Niger, and yet, in the shadows, allow it to continue? "It's woven into our traditional culture," Zangaou explains, "and many tribal chieftains, who still wield great power, are slave owners and bring significant voting blocs of their people to the government at election time."

Also, the government fears international condemnation. Eighty percent of the country's capital budget comes from overseas donors, mostly European countries. "The president is currently the head of the Economic Community of West African States," Zangaou adds, "and he fears being embarrassed by slavery still existing in Niger."

In the meantime, slaves are risking terrible beatings or whippings to escape and hide in far-off towns—especially in Niamey, with a population of 774,000, where they can disappear.

One afternoon, a Timidria worker takes me to Niamey's outskirts to meet a woman he says is a runaway slave. With us is the BBC's Niger correspondent, Idy Baraou, who is acting as my interpreter and sounding board.

We enter a maze of mud huts whose walls form twisting channels that lead deep into a settlement that would not appear out of place in the Bible. It houses several thousand people. As camels loaded with straw amble by, children stare wide-eyed at me while their parents, sprawled in the shade, throw me hard glances. Many have fled here from rural areas, and strangers can mean trouble in a place like this.

A woman comes out from a mud house, carrying a baby and with a 4-year-old girl trailing behind. Her name is Timizgida. She says she is about 30, looks 40, and has a smile that seems as fresh as her recent good fortune. She says she was born to slaves owned by fair-skinned Tuaregs out in the countryside but never knew her parents, never even knew their names; she was given as a baby to her owner, a civil servant. She was allowed to play with his children until she was 8, when she was yanked into the stark reality of captivity.

Her fate from then on was much the same as Asibit's; she rose before dawn to fetch water from a distant well for her owner's thirsty herds and his family, and then toiled all day and late into the night, cooking, doing chores and eating scraps. "I was only allowed to rest for two or three days each year, during religious festivals, and was never paid," she tells me. "My master didn't pay his donkeys, and so he thought why should he pay me and his other slaves?"

The spark in Timizgida's eye signals a rebellious nature, and she says her owner and his family beat her many times

"With freedom, I became a human being," says Timizgida (with two of her children on the outskirts of Niamey). She says that she bolted from her owner after repeated beatings.

with sticks and whips, sometimes so hard that the pain lingered for months. After one such beating three years ago, she decided to run away. She says a soldier took pity on her and paid her and her children's bus fares to Niamey. "With freedom, I became a human being," she tells me with a smile. "It's the sweetest of feelings."

Her smile grows wider as she points to her kids. "My children were also my master's slaves, but now they're free."

Timizgida's account echoes those I will hear from other slaves in far-off regions in a country where communications among the poor are almost nonexistent. But the president of Niger's Human Rights Commission, Lompo Garba, tells me that Timizgida—and all other Nigeriens who claim they were or are slaves—is lying.

"Niger has no slaves," Lompo says, leaning across his desk and glaring. "Have you seen anyone in Niger blindfolded and tied up?"

graceful command that comes from generations of unchallenged authority, he guides us by SUV to Azarori, about 300 miles northeast of Niamey and one of more than 100 villages under his father's feudal command.

Moustapha in boyhood was steeped in his tribal traditions, with slaves to wait on him hand and foot, but his exposure to their condition, and a few years studying in Italy and Switzerland, convinced him that no person should belong to another. Moustapha now works in the Department of Civil Aviation in Niamey, but he devotes much of his spare time working to end slavery in Niger and improve the living conditions of ordinary Nigeriens. In December 2003, he freed all ten of the slaves he had inherited in a public ceremony at Tahoua, about 110 miles from Azarori. On the government's orders, police seized the audio- and videotapes of reporters and cameramen who were covering the event.

Cette nouvelle loi introduit des dispositions pertinentes qui renforcent la Démocratie et l'Etat de droit dans notre pays, notamment en affirmant sans ambages que l'esclavage est un crime.

Or, il se trouve malheureusement que des pratiques esclavagistes existent encore dans notre pays, particulièrement dans les régions de :

In an interview, Prime Minister Hama Amadou (above) insisted that "Niger has no slaves" and challenged the author to "try and find slaves in Niger. You won't find even one." But in a confidential letter he wrote (above, in French) to Niger's minister of internal affairs two years ago, he lamented the fact that "Unfortunately, the practice of slavery still exists in our country."

Niger's prime minister, Hama Amadou, is equally insistent when we meet at his Niamey office, not far from the U.S. Embassy. He is Fulani and has a prominent tribal scar, an X, carved into his right cheek. "Niger has no slaves," he tells me emphatically.

And yet in July 2003, he wrote a confidential letter to the minister of internal affairs stating that slavery existed in Niger and was immoral, and listing 32 places around the country where slaves could be found. When I tell him I know about the letter—I even have a copy of it—the prime minister at first looks astonished and then steadies himself and confirms that he wrote it.

But still he denies that his country has slaves. "Try and find slaves in Niger," he says. "You won't find even one."

AS I LEAVE FOR NIGER'S INTERIOR to take up the prime minister's challenge, I am accompanied by Moustapha Kadi Oumani, the firstborn son of a powerful Tuareg chieftain and known among Nigeriens as the Prince of Illéla, the capital of his father's domain. Elegant, sharp-minded and with the

"They didn't want people to know," says Idy, who was there for the BBC.

The number of slaves in Niger is unknown. Moustapha scoffs at a widely quoted Timidria survey in 2002 that put it at 870,363. "There was double counting, and the survey's definition of a slave was loose," he says. Anti-Slavery International, using the same data, counted at least 43,000 slaves, but that figure has also been questioned—as both too high and too low.

The countryside, facing a famine, looks sickly, and when the SUV pulls to the side of the road for a comfort stop, a blur of locusts clatter into the air from a stunted tree nearby. We arrive at Azarori (pop. 9,000) at midmorning as several men and children—all slaves, Moustapha says—herd goats to pasture.

A stooped old man in a conical hat and purple robe tells me that he has worked hard for his owner for no pay since he was a child. Another man, Ahmed, who is 49, says that Allah ordained that he and his family are to be slaves through the generations. (Niger is 95 percent Muslim.) When I ask him

to quote that command from the Koran, he shrugs. "I can't read or write, and so my master, Boudal, told me," he says.

Like most of the slaves I would meet, Ahmed looks well fed and healthy. "A slave master feeds his donkeys and camels well so they can work hard, and it's the same with his slaves," Moustapha says.

This may explain the extraordinary devotion many slaves insist they offer their masters in this impoverished nation, especially if they are not mistreated. I ask Ahmed how he would feel if his owner gave away his daughter. "If my master asked me to throw my daughter down the well, I'd do it immediately," he replies.

Truly?

"Truly," he replies.

Moustapha shakes his head as we sip the highly sugared bitter tea favored by the Tuareg. "Ahmed has the fatalistic mindset of many slaves," he says. "They accept it's their destiny to be a *bellah,* the slave caste, and obey their masters without question."

We journey to another village along dirt roads, framed by a sandy landscape with few trees but many mud villages. At one of them, Tajaé, an 80-year-old woman named Takany sits at Moustapha's feet by her own choice and tells how she was given to her owner as an infant. Her great-grandson, who looks to be about 6 years old, sits by her side. Like many other child slaves I see, he is naked, while the village's free children wear bright robes and even jeans. The naked children I see stay close to their relatives, their eyes wary and their step cautious, while the clothed children stroll about or play chase.

The village chief, wearing a gold robe and gripping a string of prayer beads, asks Moustapha, as the son of his feudal lord, for advice. A man had recently purchased a "fifth wife" from a slave owner in the village, the chief says, but returned her after discovering she was two months pregnant. He wanted a new slave girl or his money back. Although Islam limits a man to four wives, a slave girl taken as a concubine is known as a "fifth wife" in Niger, and men take as many fifth wives as they can afford.

The ancestors of Kadi Oumani (in purple robe and sunglasses) enslaved fallen foes. Chief Kadi's son Moustapha (bareheaded) is an antislavery activist.

Moustapha's face tightens in barely concealed anger. "Tell him he'll get neither, and if he causes trouble, let me know."

In late afternoon, we reach the outskirts of Illéla and enter wide, sandy streets lined with mud-house compounds. About 12,000 people live here, ruled by Moustapha's father, Kadi Oumani, a hereditary tribal chieftain with more than a quarter of a million people offering fealty to him. "My ancestor Agaba conquered Illéla in 1678 and enslaved the families of warriors who opposed him," Moustapha tells me. "Many of their descendants are still slaves."

Moustapha has surveyed the families of the 220 traditional chieftains in Niger, known as royal families, and found that they collectively own more than 8,500 slaves whose status has not changed since their ancestors were conquered. "When a princess marries, she brings slaves as part of her dowry," he tells me. He has caused trouble for his highborn family by opposing slavery, but shrugs when I ask if this worries him. "What worries me is that there are still slaves in Niger."

Moustapha's father sits on a chair in a mud-wall compound with a dozen chiefs perched cross-legged on the ground around him. Two dozen longhorn cattle, sheep and goats mill about, there for the Tuareg aristocrats to enjoy as a reminder of their nomadic origins. Kadi Oumani is 74 years old and wears a heavy robe and an open veil that reveals his dark, bluff face. Moustapha greets him with a smile and then leads me to the compound set aside for us during our visit.

For the next hour Moustapha sits serenely on a chair at the compound's far end, greeting clan leaders who have come to pay their respects. A special visitor is Abdou Nayoussa, one of the ten slaves Moustapha freed 20 months ago. Abdou's broad face marks him as a member of the local tribe conquered by Moustapha's ancestor.

"As a boy I was chosen to look after the chieftain's horses, feeding, exercising and grooming them," he tells me. "I worked hard every day for no pay, was beaten many times and could never leave Illéla because I belonged to Moustapha's family." His eyes—which never once meet Moustapha's—are dim with what I take to be pain. "At night I cried myself to sleep, thinking about my fate and especially the fate of the children I'd have one day."

Abdou still works as the chieftain's horse handler, for which he is given little pay, but he is now free to do what he wants. "The difference is like that between heaven and hell," he tells me. "When I get enough money, I'm going to Niamey and never coming back."

As the sky darkens, we eat grilled lamb and millet. Nearby a courtier sings an ancient desert tune. Moustapha's

cousin Oumarou Marafa, a burly, middle-aged secondary school teacher, joins us. "He's a slave owner and not ashamed of it," Moustapha informs me.

"When I was younger, I desired one of my mother's slaves, a beautiful 12-year-old girl, and she gave her to me as a fifth wife," Oumarou tells me. "There was no marriage ceremony; she was mine to do with her as I wished."

Did that include sex? "Of course," he says. After a few years, he sent the girl away, and she married another man. But Oumarou still considers her his possession. "When I want to sleep with her, she must come to my bed," he says without a hint of emotion.

I find this hard to believe, but Moustapha says it is true. "It's the custom, and her husband is too scared to object," he adds.

"There are many men in Illéla with fifth wives," Oumarou goes on, even though the cost is about a thousand U.S. dollars, or three years' pay for a laborer. "If you want a fifth wife and have the money, I can take you tomorrow to slave owners with girls for sale here in Illéla."

I squirm at the thought. Late into the night Moustapha and I attempt to convince his cousin of slavery's evil nature, trying to change his belief that slaves are a separate, lower species. "Try and understand the enormous mental pain of a slave seeing his child given away as a present to another family," I tell him.

"You Westerners," he replies. "You only understand your way of life, and you think the rest of the world should follow you."

Next morning, Moustapha takes me to the 300-year-old mud-brick palace where his father, in a daily ritual, is meeting chiefs who have come to honor him. Inside, Kadi Oumani sits on a modest throne from which he daily delivers judgments on minor disputes, principally about land and marriages.

"There are no slaves in Niger," he tells me.

"But I've met slaves."

"You mean the bellah," he says in his chieftain's monotone. "They are one of the traditional Tuareg castes. We have nobles, the ordinary people and the bellah."

A sign of the times stands askew in Niamey, which boasts hardly any traces of wealth but does offer crowded streets in which slaves escaping from the interior can easily disappear.

JUST BEFORE DAWN the morning after, I set out with Idy, my translator, to drive north more than 125 miles deeper into the desert near Tamaya, the home of Asibit, the woman who says she escaped from her master during the storm.

There, we pick up Foungoutan Oumar, a young Tuareg member of Timidria, who will guide us across 20 miles of open desert to wells where he says slaves water their masters' herds in the morning and late afternoon. Foungoutan wants to avoid meeting slave owners, especially Asibit's former master, Tafan, who he says recently used his sword to lop off the hand of a man in a dispute. But it's not necessarily Tafan's anger we wish to sidestep. "If we go to the tents of the slave masters, they'll know we've come to talk to their slaves, and they'll punish them," Foungoutan says.

The sand stretches to the horizon, and the sun already burns our skin even though it's just eight o'clock in the morning. There is no one at the first two wells we visit. "The slaves have already gone with the herds," Foungoutan says with a shrug. The third well, nudged by a cluster of trees, is owned by a man named Halilou, Tafan's brother.

Six children are unloading water containers from donkeys. The younger children are naked. When they see us, they scream and bury their heads in the donkey's flanks and necks. Shivering in apparent fear, they refuse to lift their heads or talk. Three women arrive balancing water containers on their heads, having walked the three miles from Halilou's tents. They turn their faces away from us.

Soon a middle-aged man appears with a naked child by his side. His face clouds when he sees us. "My master said he'll beat me if I talk to strangers," he says. He warns the others not to tell their master about us.

With some coaxing he says their master's name is Halilou and adds that they are all slaves in his camp. He says he has toiled for Halilou's family since he was a child and has never received any money. Halilou has beaten him many times, but the man shrugs off more talk of punishment and refuses to give his name.

Another man arrives, and the two of them begin drawing water from the well, helped by five donkeys hauling on a rope attached to a canvas bucket. They pour the water into troughs for the thirsty cows, sheep and goats and then fill the containers. As the women lead the water-laden donkeys back to their master's tents, the two men and children herd the livestock out into the desert to graze on the shriveled grass and plants that grow there.

At Tamaya, a small village hemmed in by desert, we find Asibit at her usual spot in the bustling marketplace where robed Tuareg, Fulani, Hausa and Arabs buy and sell livestock, foodstuffs and swords. "Many of these men own slaves,"

Foungoutan says. "I've reported them to the police, but they take no action against them."

When Asibit reached Tamaya on the morning after the thunderstorm, she was led to Foungoutan, who took her to the police. She made a formal complaint that Tafan was a slave owner, and the police responded by rescuing her children, including the daughter presented to Halilou. But Asibit says they left her husband with Tafan.

Asibit squats in the shade, making a drink from millet and selling it for the equivalent of 10 cents. She smiles easily now. "You can't understand what freedom is until you've been a slave," she says. "Now, I can go to sleep when I want and get up any time I want. No one can beat me or call me bad names every day. My children and grandchildren are free."

FREEDOM, HOWEVER, is relative. For former slaves, the search for a place in Nigerien society is harsh. "Former slaves suffer extreme discrimination in getting a job, government services, or finding marriage partners for their children," says Romana Cacchioli, the Africa expert for Anti-Slavery International, speaking by telephone from the group's London headquarters.

The government is not likely to come forward to help ex-slaves on its own; to acknowledge ex-slaves would be to acknowledge slavery. And the government, lacking the power to confront the chieftains and fearing condemnation from the outside world, gives no signs of doing that.

Within Niger, Timidria remains the most visible force for change, but it, too, faces a long road: many Nigeriens say they do not support the antislavery cause because they believe the group's president, Ilguilas Weila, has profited from his association with Western aid organizations. (Both he and Anti-Slavery International insist he has not.)

In April, the government arrested Weila and another Timidria leader in response to the failed release of the 7,000 slaves. Weila was freed on bail in June but is awaiting a ruling on whether there is enough evidence to try him. The charge against him amounts to fraud: he solicited funds overseas to fight slavery in his country, the government contends, but of course there are no slaves in Niger.

In the hinterlands, there are few places to hide. "My master said he'll beat me if I talk to strangers," said this man, who declined to give his name during an encounter at a rural well.

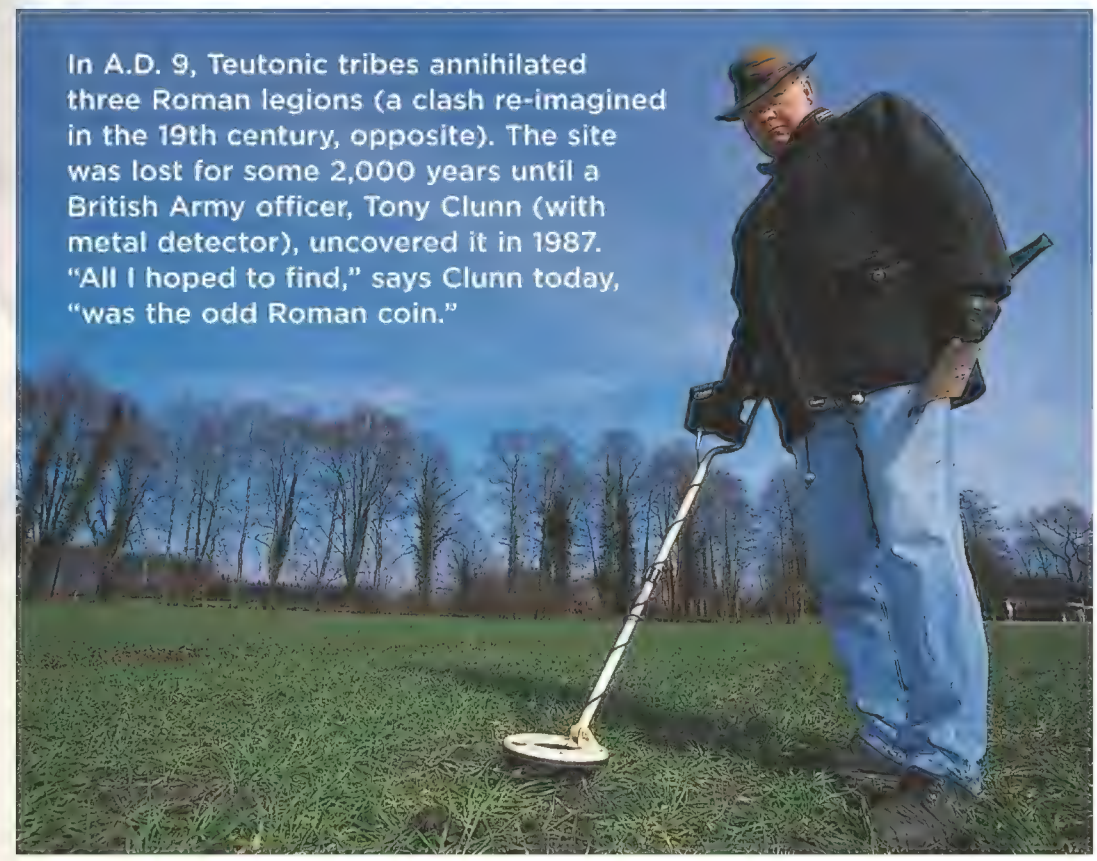
THE AMBUSH THAT CHANGED HISTORY

AN AMATEUR ARCHAEOLOGIST DISCOVERS THE FIELD WHERE WILY GERMANIC WARRIORS HALTED THE SPREAD OF THE ROMAN EMPIRE

BY FERGUS M. BORDEWICH

"THIS IS THE SOIL OF 2,000 YEARS AGO, where we are standing now," Susanne Wilbers-Rost was saying as a young volunteer pried a small, dark clod out of it. Wilbers-Rost, a specialist in early German archaeology, peered through wire-rimmed glasses, brushed away some earth, and handed an object to me. "You're holding a nail from a Roman soldier's sandal," she said. A trim, short-haired woman, Wilbers-Rost has worked at the site, which is ten miles north of the manufacturing city of Osnabrück, Germany, since 1990. Inch by inch, several young archaeologists under her direction are bringing to light a battlefield that was lost for almost 2,000 years, until an off-duty British Army officer stumbled across it in 1987.

The sandal nail was a minor discovery, extracted from the soil beneath an overgrown pasture at the base of Kalkriese (the word may derive from Old High German for limestone), a 350-foot-high hill in an area where uplands slope down to the north German plain. But it was further proof that one of the pivotal events in European history took place here: in A.D. 9, three crack legions of Rome's army were caught in an ambush and



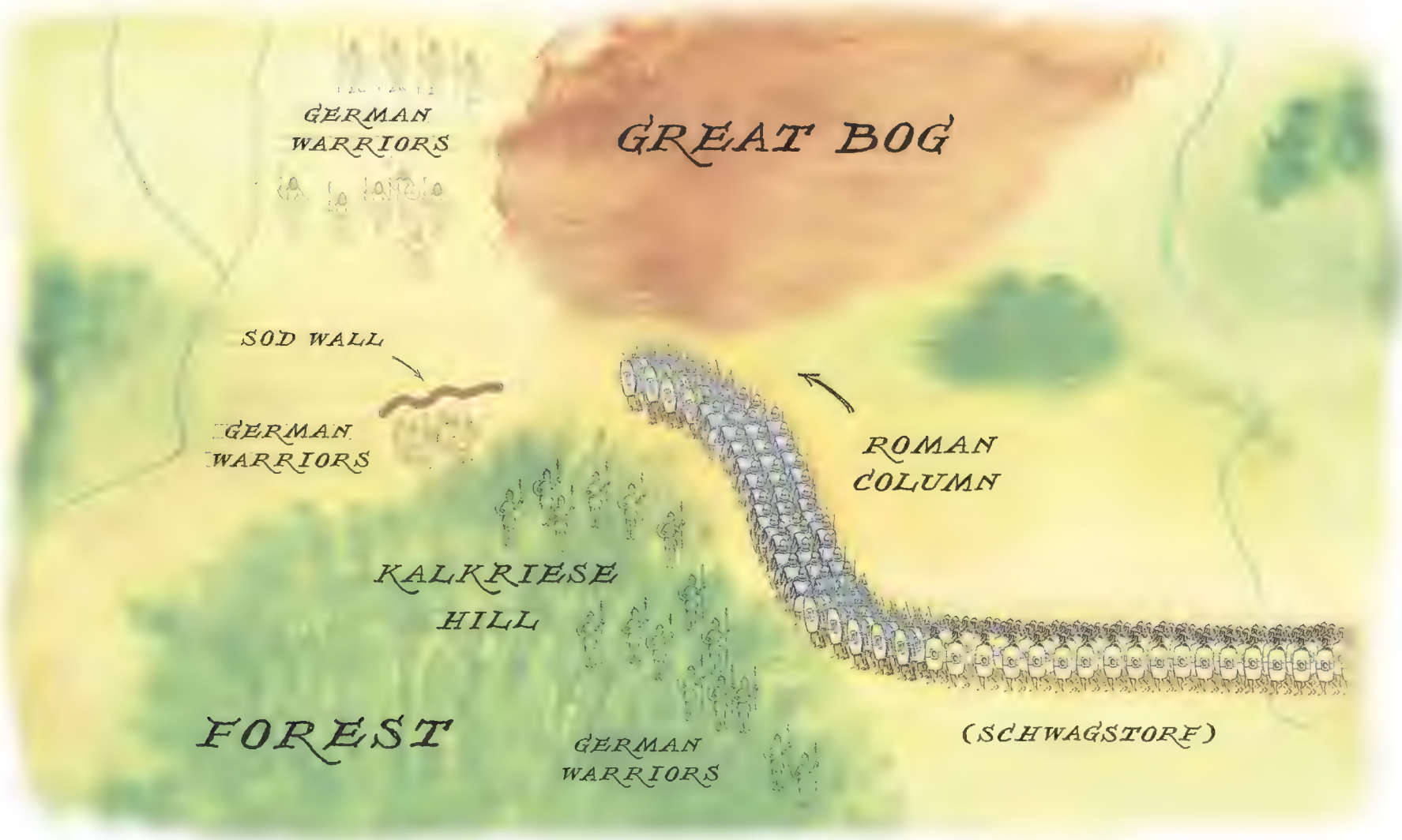
In A.D. 9, Teutonic tribes annihilated three Roman legions (a clash re-imagined in the 19th century, opposite). The site was lost for some 2,000 years until a British Army officer, Tony Clunn (with metal detector), uncovered it in 1987. "All I hoped to find," says Clunn today, "was the odd Roman coin."

annihilated. Ongoing finds—ranging from simple nails to fragments of armor and the remains of fortifications—have verified the innovative guerrilla tactics that according to accounts from the period, neutralized the Romans' superior weaponry and discipline.

It was a defeat so catastrophic that it threatened the survival of Rome itself and halted the empire's conquest of Germany. "This was a battle that changed the course of history," says Peter S. Wells, a specialist in Iron Age European archaeology at the University of Minnesota and the author of *The Battle That Stopped Rome*. "It was one of the most devastating defeats ever suffered by the Roman Army, and its consequences were the most far-reaching. The battle led to the creation of a militarized frontier in the middle of Europe that endured for 400 years, and it created a boundary between Germanic and Latin cultures that lasted 2,000 years." Had Rome not been defeated, says historian Herbert W. Benario, emeritus professor of classics at Emory University, a very different Europe would have emerged. "Almost all of modern Germany as well as much of the present-day Czech Republic would have come under Roman rule. All Europe west of the Elbe might well have remained Roman Catholic; Germans would be speaking a Romance language; the Thirty Years' War might never have occurred, and the long, bitter conflict between the French and the Germans might never have taken place."

FOUNDED (at least according to legend) in 753 B.C., Rome spent its formative decades as little more than an overgrown village. But within a few hundred years, Rome had conquered much of the Italian peninsula, and by 146 B.C., had leapt into the ranks of major powers by defeating Carthage, which controlled much of the western Mediterranean. By the beginning of the Christian Era, Rome's sway extended from Spain to Asia Minor, and from the North Sea to the Sahara. The imperial navy had turned the Mediterranean into a Roman

Between 6 B.C. and A.D. 4, Roman legions established bases on the Lippe and Weser rivers (above); the plan was to extend the empire from the Rhine to the Elbe. Those ambitions were crushed at Kalkriese (below) when Roman soldiers were cut down between a hill and a bog. This "was one of the most devastating defeats ever suffered by the Roman Army," says scholar Peter Wells.



MIKE REAGAN (MAP, TOP); DOUG STERN (MAP, BOTTOM); PP. 74, 75 WESTFÄLISCHES LANDESMUSEUM FÜR KUNST UND KULTURGESCHICHTE, MÜNSTER, GERMANY; P. 75 DAISY GILARDINI

lake, and everywhere around the rim of the empire, Rome's defeated enemies feared her legions—or so it seemed to optimistic Romans. "Germania" (the name referred originally to a particular tribe along the Rhine), meanwhile, did not exist as a nation at all. Various Teutonic tribes lay scattered across a vast wilderness that reached from present-day Holland to Poland. The Romans knew little of this densely forested territory governed by fiercely independent chieftains. They would pay dearly for their ignorance.

There are many reasons, according to ancient historians, that the imperial Roman legate Publius Quinctilius Varus set out so confidently that September in A.D. 9. He led an estimated 15,000 seasoned legionnaires from their summer quarters on the Weser River, in what is now northwestern Germany, west toward permanent bases near the Rhine. They were planning to investigate reports of an uprising among local tribes. Varus, 55, was linked by marriage to the imperial family and had served as Emperor Augustus' representative in the province of Syria (which included modern Lebanon and Israel), where he had quelled ethnic disturbances. To Augustus, he must have seemed just the man to bring Roman civilization to the "barbarous" tribes of Germany.

Like his patrons in Rome, Varus thought occupying Germany would be easy. "Varus was a very good administrator, but he was not a soldier," says Benario. "To send him out into an unconquered land and tell him to make a province of it was a huge blunder on Augustus' part."

Rome's imperial future was by no means foreordained. At age 35, Augustus, the first emperor, still styled himself "first citizen" in deference to lingering democratic sensibilities of the fallen Roman Republic, whose demise—after the assassination of Caesar—had brought him to power in 27 B.C., following a century of bloody civil wars. During Augustus' rule, Rome had grown into the largest city in the world, with a population that may have approached one million.

The German frontier held a deep allure for Augustus, who regarded the warring tribes east of the Rhine as little more than savages ripe for conquest. Between 6 B.C. and A.D. 4, Roman legions had mounted repeated incursions into the tribal lands, eventually establishing a chain of bases on the Lippe and Weser rivers. In time, despite growing resentment of the Roman presence, the tribes exchanged iron, cattle, slaves and foodstuffs for Roman gold and silver coins and luxury goods. Some tribes even pledged allegiance to Rome; German mercenaries served with Roman armies as far away as the present-day Czech Republic.

Arminius, a prince of the Cherusci tribe (in a 16th-century engraving), was the mastermind of the trap.

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Writer FERGUS M. BORDEWICH, *who reports frequently on history and archaeology, is based in upstate New York.*

One such German soldier of fortune, a 25-year-old prince of the Cherusci tribe, was known to the Romans as Arminius. (His tribal name has been lost to history.) He spoke Latin and was familiar with Roman tactics, the kind of man the Romans relied on to help their armies penetrate the lands of the barbarians. For his valor on the field of battle, he had been awarded the rank of knight and the honor of Roman citizenship. On that September day, he and his mounted auxiliaries were deputized to march ahead and rally some of his own tribesmen to help in putting down the rebellion.

Arminius' motives are obscure, but most historians believe he had long harbored dreams of becoming king of his tribe. To achieve his goal, he concocted a brilliant deception: he would report a fictitious "uprising" in territory unfamiliar to the Romans, then lead them into a deadly trap. A rival chieftain, Segestes, repeatedly warned Varus that Arminius was a traitor, but Varus ignored him. "The Romans," says Wells, "thought they were invincible."

ARMINIUS HAD INSTRUCTED the Romans to make what he had described as a short detour, a one- or two-day march, into the territory of the rebels. The legionnaires followed along rudimentary trails that meandered among the Germans' farmsteads, scattered fields, pastures, bogs and oak forests. As they progressed, the line of Roman troops—already seven or eight miles long, including local auxiliaries, camp followers and a train of baggage carts pulled by mules—became dangerously extended. The legionnaires, wrote third-century historian Cassius Dio, "were having a hard time of it, felling trees, building roads, and bridging places that required it. . . . Meanwhile, a violent rain and wind came up that separated them still further, while the ground, that had become slippery around the roots and logs, made walking very treacherous for them, and the tops of the trees kept breaking off and falling down, causing much confusion. While the Romans were in such difficulties, the barbarians suddenly surrounded them on all sides at once," Dio writes of the preliminary German skirmishes. "At first they hurled their volleys from a distance; then, as no one defended himself and many were wounded, they approached closer to them." Somehow, the command to attack had gone out to the German tribes. "This is pure conjecture," says Benario, "but Arminius must have delivered a message that the Germans should begin their assault."

The nearest Roman base lay at Haltern, 60 miles to the southwest. So Varus, on the second day, pressed on doggedly in that direction. On the third day, he and his troops were entering a passage between a hill and a huge swamp known as the Great Bog that, in places, was no more than 60 feet wide.

As the increasingly chaotic and panicky mass of legionnaires, cavalrymen, mules and carts inched forward, Germans appeared from behind trees and sand-mound barriers, cutting off all possibility of retreat. "In open country, the superbly drilled and disciplined Romans would surely have prevailed," says Wells. "But here, with no room to maneuver, exhausted after days of hit-and-run attacks, unnerved, they were at a crippling disadvantage."

Varus understood that there was no escape. Rather than face certain torture at the hands of the Germans, he chose suicide, falling on his sword as Roman tradition prescribed. Most of his commanders followed suit, leaving their troops leaderless in what had become a killing field. "An army unexcelled in bravery, the first of Roman armies in discipline, in energy, and in experience in the field, through the negligence of its general, the perfidy of the enemy, and the unkindness of fortune. . . . was exterminated almost to a man by the very enemy whom it has always slaughtered like cattle," according to the A.D. 30 account of Velleius Paterculus, a retired military officer who may have known both Varus and Arminius.

Only a handful of survivors managed somehow to escape into the forest and make their way to safety. The news they brought home so shocked the Romans that many ascribed it to supernatural causes, claiming a statue of the goddess Victory had ominously reversed direction. The historian Suetonius, writing a century after the battle, asserted that the defeat "nearly wrecked the empire." Roman writers, says Wells, "were baffled by the disaster." Though they blamed the hapless Varus, or the treachery of Arminius, or the wild landscape, in reality, says Wells, "the local societies were much more complex than the Romans thought. They were an informed, dynamic, rapidly changing people, who practiced complex farming, fought in organized military units, and communicated with each other across very great distances."

More than 10 percent of the entire imperial army had been wiped out—the myth of its invincibility shattered. In the wake of the debacle, Roman bases in Germany were hastily abandoned. Augustus, dreading that Arminius would march on Rome, expelled all Germans and Gauls from the city and put security forces on alert against insurrections.

SIX YEARS WOULD PASS before a Roman army would return to the battle site. The scene the soldiers found was horrific. Heaped across the field at Kalkriese lay the whitening bones of dead men and animals, amid fragments of their shattered weapons. In nearby groves they found "barbarous altars" upon which the Germans had sacrificed the legionnaires who surrendered. Human heads were nailed everywhere to trees. In grief and anger, the aptly named Germanicus, the Roman general leading the expedition, ordered his men to bury the remains, in the words of Tacitus, "not a soldier knowing whether he was interring the relics of a relative or a stranger, but looking on all as kinsfolk and of their own blood, while their wrath rose higher than ever against the foe."

Germanicus, ordered to campaign against the Cherusci, still under the command of Arminius, pursued the tribe deep into Germany. But the wily chieftain retreated into the forests, until, after a series of bloody but indecisive clashes, Germanicus fell back to the Rhine, defeated. Arminius was "the liberator of Germany," Tacitus wrote, "a man who, . . . threw down the challenge to the Roman nation."

For a time, tribes flocked to join Arminius' growing coalition. But as his power grew, jealous rivals began to defect from his cause. He "fell by the treachery of his relatives," Tacitus records, in A.D. 21.

With the abdication of the Romans from Germany, the Kalkriese battlefield was gradually forgotten. Even the Roman histories that recorded the debacle were lost, sometime after the fifth century, during the collapse of the empire under the onslaught of barbarian invasions. But in the 1400s, humanist scholars in Germany rediscovered the works of Tacitus, including his account of Varus' defeat. As a consequence, Arminius was hailed as the first national hero of Germany. "The myth of Arminius," says Benario, "helped give Germans their first sense that there had been a German people that transcended the hundreds of small duchies that filled the political landscape of the time." By 1530, even Martin Luther praised the ancient German chieftain as a "war leader" (and updated his name to "Hermann"). Three centuries later, Heinrich von Kleist's 1809 play, *Hermann's Battle*, invoked the hero's exploits to encourage his countrymen to fight Napoleon and his invading armies. By 1875, as German militarism surged, Hermann had been embraced as the nation's paramount historical symbol; a titanic copper statue of the ancient warrior, crowned with a winged helmet and brandishing his sword menacingly toward France, was erected on a mountaintop 20 miles south of Kalkriese, near Detmold, where many scholars then believed the battle took place. At 87 feet high, and mounted on an 88-foot stone base, it was the largest statue in the world until the Statue of Liberty was

Coins (above) found at the site provide important clues: none had been minted later than the reign of the emperor Augustus; most of them were in pristine condition, as if new when lost.

DAISY GILARDINI

To date, archaeologists have uncovered more than 5,000 objects from the site (including, clockwise from top left, a Roman standard-bearer's silver face mask, fragments of a sandal, and spearheads). In 1987, as Clunn made his first discoveries at Kalkriese, he found that "a cohesive pattern began to emerge. There was every indication that a large contingent of people had splayed out, fleeing from an unknown horror."

VARUSSCHLACHT MUSEUM AND PARK KALKRIESE (3)

The site of the massacre (and of current excavations) is today a pasture. Here, wrote historian Velleius Paterculus in A.D. 30, the "first of Roman armies was exterminated almost to a man."

DAISY GILARDINI

dedicated in 1886. Not surprisingly, the monument became a popular destination for Nazi pilgrimages during the 1930s. But the actual location of the battle remained a mystery. More than 700 sites, ranging from the Netherlands to eastern Germany, were proposed.

AMATEUR ARCHAEOLOGIST TONY CLUNN of Britain's Royal Tank Regiment was hoping for a chance to indulge his interest when he arrived at his new posting in Osnabrück in the spring of 1987. (He had previously assisted archaeologists in England during his spare time, using a metal detector to search for traces of Roman roads.) Captain Clunn introduced himself to the director of the Osnabrück museum, Wolfgang Schlüter, and asked him for guidance. The British officer promised to turn over to the museum anything he found.

"In the beginning, all I had ever hoped to find was the odd Roman coin or artifact," Clunn, who retired from the army with the rank of major in 1996, told me, as we sat drinking tea in a café next to the Varusschlacht (Varus Battle) Museum and Park Kalkriese, which opened in 2002. Schlüter had suggested that he try the rural Kalkriese area, where a few coins had already been found. Clunn planned his assault with a soldier's eye to detail. He pored over old maps, studied regional topography and read extensively about the battle, including a treatise by 19th-century historian Theodor Mommsen, who had speculated that it took place somewhere near Kalkriese, although few agreed with him.

As Clunn drove around Kalkriese in his black Ford Scorpio, introducing himself to local farmers, he saw a landscape that had changed significantly since Roman times. Forests of oak, alder and beech had long since given way to cultivated fields and copses of pine. Stolid modern farm buildings with red-tile roofs stood in place of the huts of the ancient tribesmen. The Great Bog itself had disappeared, drained in the 19th century; it was now bucolic pastureland.

Using an old hand-drawn map he got from a local landowner, Clunn noted the locations of earlier coin finds. "The secret is to look for the easy route that people would have taken in ancient times," he says. "No one wants to dig a lot of unnecessary holes in the ground. So you look for the most logical spot to start searching—for example, a pass where a trail might narrow, a bottleneck." Clunn focused on the area between where the Great Bog had been and Kalkriese Hill. As he walked, sweeping his metal detector from side to side, he noticed a slight elevation. "I sensed it was an old trackway, perhaps a path across the bog," he says. He began following the elevation, working backward toward the hills.

Before long, a ringing in his earphones indicated metal in the earth. He bent over, carefully cut away a small square of turf with a trowel, and began to dig, sifting the peaty soil

through his fingers. He dug down about eight inches. "Then I saw it!" Clunn exclaims. In his hand lay a small, round silver coin, blackened with age—a Roman denarius, stamped on one side with the aquiline features of Augustus, and on the other, with two warriors armed with battle shields and spears. "I could scarcely believe it," he says. "I was transfixed." Soon he found a second denarius, then a third. Who lost these? he asked himself, and what had the coin carrier been doing—running, riding, walking? Before Clunn left the area for the day, he carefully logged the location of the coins on his grid map, sealed them in plastic pouches and restored the clods of dirt.

The next time Clunn returned to Kalkriese, his metal detector signaled another find: at a depth of about a foot, he discovered another denarius. This one, too, bore a likeness of Augustus on one side, and on the other, a bull with head lowered, as if about to charge. By the end of the day, Clunn had unearthed no fewer than 89 coins. The following weekend, he found still more, for a total of 105, none minted later than the reign of Augustus. The vast majority were in pristine condition, as if they had been little circulated when they were lost.

IN THE MONTHS that followed, Clunn continued his explorations, always turning over his finds to Schlüter. Along with coins, he discovered shards of lead and bronze, nails, fragments of a *groma* (a distinctive Roman road-surveying device) and three curious ovoid pieces of lead that German scholars identified as sling shot. "Slowly but surely a cohesive pattern began to emerge," says Clunn. "There was every indication that a large contingent of people had splayed out from the area at the apex to the field, fleeing from an unknown horror." Clunn began to suspect that he had found what was left of Varus' lost legions.

Thanks to Schlüter's contacts in German academia, the site was recognized, almost immediately, as a major discovery. Professional archaeologists under the direction of Schlüter and, later, Wilbers-Rost undertook systematic excavations. They were fortunate: sometime in the past, local farmers had covered the poor sandy subsoil with a thick layer of sod that had protected the undiscovered artifacts below.

Since the early 1990s, excavations have located battle debris along a corridor almost 15 miles long from east to west, and a little more than 1 mile from north to south, offering additional proof that it unfolded over many miles, before reaching its dreadful climax at Kalkriese.

Perhaps the most important single discovery was evidence of a wall 4 feet high and 12 feet thick, built of sand and reinforced by chunks of sod. "Arminius learned much from his service with the Romans," says Wilbers-Rost. "He knew their tactics and their weak points. The wall zigzagged so that the Germans on top of it could attack the Romans from two angles. They could stand on the wall, or rush out through gaps in it to attack the Roman flank, and then run back behind it for safety." Concentrations of artifacts were found in front of the wall, suggesting that the Romans had tried to scale it. The dearth of objects behind it testifies to their failure to do so.

The more the archaeologists excavated, the more they appreciated the immensity of the massacre. Clearly, Arminius and his men had scoured the battlefield after the slaughter and carried off everything of value, including Roman armor, helmets, gold and silver, utensils and weapons. Most of what archaeologists have unearthed consists of items the victors failed to notice, or dropped as they looted. Still, there have been some spectacular finds, including the remnants of a Roman officer's scabbard and, most notably, a Roman standard-bearer's magnificent silver face mask. They also uncovered coins stamped with the letters "VAR," for Varus, which the ill-fated commander had awarded his troops for meritorious service.

In all, Wilbers-Rost's team has found more than 5,000 objects: human bones (including several skulls gruesomely split by swords), spearheads, bits of iron, harness rings, metal studs, pieces of armor, iron nails, tent pegs, scissors, bells that once hung from the necks of Roman mules, a wine strainer and medical instruments. Many of these objects, cleaned and restored, are on display in the museum at the site. (Archaeologists also found fragments of bombs that Allied planes dropped on the area during World War II.)

CLUNN, NOW 59, still works, as a staff officer, for the British military in Osnabrück. One recent afternoon, amid intermittent cloudbursts, he and I drove east from Kalkriese along the route that Varus' army most likely followed on the last day of its harrowing march. We stopped at a low hill on the outskirts of the village of Schwagstorf. From the car, I could barely detect the rise in the ground, but Clunn assured me that this was the highest spot in the vicinity. "It's the only place that offers any natural defense," he said. Here, he has found the same types of coins and artifacts that have been unearthed at Kalkriese; he hopes that future excavations will determine that the battered Roman forces attempted to regroup here shortly before they met their doom. As we stood at the edge of a traffic circle and gazed across a cornfield, he added: "I'm convinced that this is the site of Varus' last camp."

ROLAND HARDER

Arminius (in an 1875 sculpture) symbolized an emergent nationalism. "The Germans," says Herbert Benario, "had someone [to] match against the heroes of ancient Rome."

LESSON OF

HER BOLD EXPERIMENT TO TEACH IOWA THIRD GRADERS ABOUT RACIAL PREJUDICE DIVIDED TOWNSPEOPLE AND THRUST HER ONTO THE NATIONAL STAGE. DECADES LATER, JANE ELLIOTT'S STUDENTS SAY THE ORDEAL CHANGED THEM FOR GOOD

BY STEPHEN G. BLOOM · PHOTOGRAPHS BY LAYNE KENNEDY

On the morning of April 5, 1968, a Friday, Steven Armstrong stepped into Jane Elliott's third-grade classroom in Riceville, Iowa. "Hey, Mrs. Elliott," Steven yelled as he slung his books on his desk. "They shot that King yesterday. Why'd they shoot that King?"

All 28 children found their desks, and Elliott said she had something special for them to do, to begin to understand the assassination of Martin Luther King Jr. the day before.

"How do you think it would feel to be a Negro boy or girl?" she asked the children, who were white. "It would be hard to know, wouldn't it, unless we actually experienced discrimination ourselves. Would you like to find out?"

A LIFETIME

Riceville, Iowa, was the unlikely setting for a controversial classroom exercise created by Jane Elliott (with third-graders in 1969). She insists it strengthened their character. Critics say it abused their trust.

A chorus of "Yeahs" went up, and so began one of the most astonishing exercises ever conducted in an American classroom. Now, almost four decades later, Elliott's experiment still matters—to the grown children with whom she experimented, to the people of Riceville, population 840, who all but ran her out of town, and to thousands of people around the world who have also participated in an exercise based on the experiment. (She prefers the term "exercise.") It is sometimes cited as a landmark of social science. The textbook publisher McGraw-Hill has listed her on a timeline of key educators, along with Confucius, Plato, Aristotle, Horace Mann, Booker T. Washington, Maria Montessori and 23 others. Yet what Elliott did continues to stir controversy. One scholar asserts that it is "Orwellian" and teaches whites "self-contempt." A columnist at a Denver newspaper called it "evil."

That spring morning 37 years ago, the blue-eyed children were set apart from the children with brown or green eyes. Elliott pulled out green construction paper armbands and asked each of the blue-eyed kids to wear one. "The brown-eyed people are the better people in this room," Elliott began. "They are cleaner and they are smarter."

She knew that the children weren't going to buy her pitch unless she came up with a reason, and the more scientific to these Space Age children of the 1960s, the better. "Eye color, hair color and skin color are caused by a chemical," Elliott went on, writing MELANIN on the blackboard. Melanin, she said, is what causes intelligence. The more melanin, the darker the person's eyes—and the smarter the person. "Brown-eyed people have more of that chemical in their eyes, so brown-eyed people are better than those with blue eyes," Elliott said. "Blue-eyed people sit around and do nothing. You give them something nice and they just wreck it." She could feel a chasm forming between the two groups of students. "Do blue-eyed people remember what they've been taught?" Elliott asked.

"No!" the brown-eyed kids said.

Elliott rattled off the rules for the day, saying blue-eyed kids had to use paper cups if they drank from the water fountain. "Why?" one girl asked.

"Because we might catch something," a brown-eyed boy said. Everyone looked at Mrs. Elliott. She nodded.

As the morning wore on, brown-eyed kids berated their blue-eyed classmates. "Well, what do you expect from him, Mrs. Elliott," a brown-eyed student said as a blue-eyed student got an arithmetic problem wrong. "He's a bluey!"

Then, the inevitable: "Hey, Mrs. Elliott, how come you're the teacher if you've got blue eyes?" a brown-eyed boy asked. Before she could answer, another boy piped up: "If she didn't have blue eyes, she'd be the principal or the superintendent."

At lunchtime, Elliott hurried to the teachers' lounge. She described to her colleagues what she'd done, remarking how several of her slower kids with brown eyes had transformed themselves into confident leaders of the class. Withdrawn brown-eyed kids were suddenly outgoing, some beaming with the widest smiles she had ever seen on them. She asked the other teachers what they were doing to bring news of the King assassination into their classrooms. The answer, in a word, was nothing.

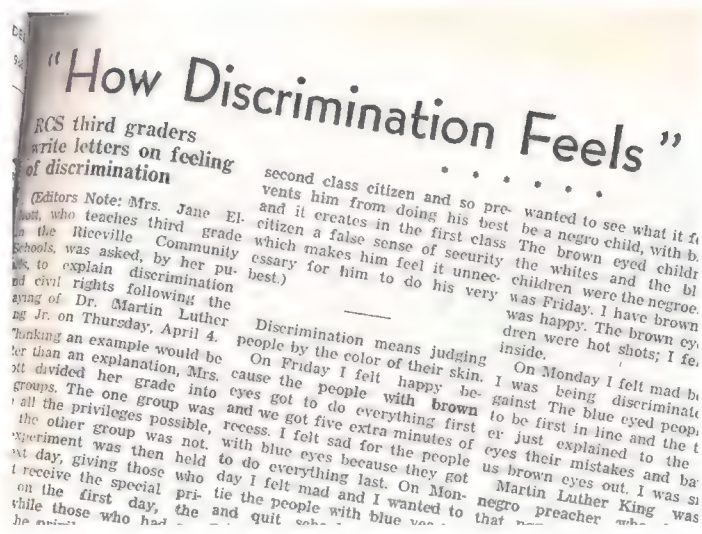
Back in the classroom, Elliott's experiment had taken on a life of its own. A smart blue-eyed girl who had never had problems with multiplication tables started making mistakes. She slumped. At recess, three brown-eyed girls ganged up on her. "You better apologize to us for getting in our way because we're better than you are," one of the brownies said. The blue-eyed girl apologized.

On Monday, Elliott reversed the exercise, and the brown-eyed kids were told how shifty, dumb and lazy *they* were. Later, it would occur to Elliott that the blueys were much less nasty than the brown-eyed kids had been, perhaps because the blue-eyed kids had felt the sting of being ostracized and didn't want to inflict it on their former tormentors.

When the exercise ended, some of the kids hugged, some cried. Elliott reminded them that the reason for the lesson was the King assassination, and she asked them to write down what they had learned. Typical of their responses was that of Debbie Hughes, who reported that "the people in Mrs. Elliott's room who had brown eyes got to discriminate against the people who had blue eyes. I have brown eyes. I felt like hitting them if I wanted to. I got to have five minutes extra of recess." The next day when the tables were turned, "I felt like quitting school. . . . I felt mad. That's what it feels like when you're discriminated against."

Elliott shared the essays with her mother, who showed them to the editor of the weekly *Riceville Recorder*. He printed them under the headline "How Discrimination Feels." The Associated Press followed up, quoting Elliott as saying she was "dumbfounded" by the exercise's effectiveness. "I think these children walked in a colored child's moccasins for a day," she was quoted as saying.

That might have been the end of it, but a month later, Elliott says, Johnny Carson called her. "Would you like to come on the show?" he asked.



"How Discrimination Feels"

RCS third graders write letters on feeling of discrimination

(Editors Note: Mrs. Jane Elliott, who teaches third grade in the Riceville Community Schools, was asked, by her pupils, to explain discrimination and civil rights following the slaying of Dr. Martin Luther King Jr. on Thursday, April 4. Thinking an example would be better than an explanation, Mrs. Elliott divided her grade into two groups. The one group was given all the privileges possible, while the other group was not. The experiment was then held for the next day, giving those who had received the special privilege the first day, and the people with blue eyes the second class citizen and so prevents him from doing his best and it creates in the first class citizen a false sense of security which makes him feel it unnecessary for him to do his very best.)

Discrimination means judging people by the color of their skin. On Friday I felt happy because the people with brown eyes got to do everything first and we got five extra minutes of recess. I felt sad for the people with blue eyes because they got to do everything last. On Monday I felt mad and I wanted to tie the people with blue

wanted to see what it f be a negro child, with b The brown eyed childr the whites and the bl children were the negroe was Friday. I have brown was happy. The brown cy dren were hot shots; I fe inside.

On Monday I felt mad b I was being discriminat gainst The blue eyed peop to be first in line and the t er just explained to the eyes their mistakes and ba us brown eyes out. I was s Martin Luther King was negro preacher

Soon after her students' reports appeared in the town paper in 1968 (above), Elliott (opposite, in her old classroom this past May) became famous.

STEPHEN G. BLOOM teaches journalism at the University of Iowa and is the author of Postville: A Clash of Cultures in Heartland America. *Photographer LAYNE KENNEDY lives in Minneapolis.*

RICEVILLE RECORDER *(APRIL 18, 1968); P. 83 CHARLOTTE BUTTON / JANE ELLIOTT COLLECTION*

Elliott flew to the NBC studio in New York City. On the "Tonight Show" Carson broke the ice by spoofing Elliott's rural roots. "I understand this is the first time you've flown?" Carson asked, grinning.

"On an airplane, it is," Elliott said to appreciative laughter from the studio audience. She chatted about the experiment, and before she knew it was whisked off the stage.

Hundreds of viewers wrote letters saying Elliott's work appalled them. "How dare you try this cruel experiment out on white children," one said. "Black children grow up accustomed to such behavior, but white children, there's no way they could possibly understand it. It's cruel to white children and will cause them great psychological damage."

Elliott replied, "Why are we so worried about the fragile egos of white children who experience a couple of hours of made-up racism one day when blacks experience real racism every day of their lives?"

THE PEOPLE OF RICEVILLE did not exactly welcome Elliott home from New York with a hayride. Looking back, I think part of the problem was that, like the residents of other small midwestern towns I've covered, many in Riceville felt that calling attention to oneself was poor manners, and that Elliott had shone a bright light not just on herself but on Riceville; people all over the United States would think Riceville was full of bigots. Some residents were furious.

When Elliott walked into the teachers' lounge the next Monday, several teachers got up and walked out. When she went downtown to do errands, she heard whispers. She and her husband, Darald Elliott, then a grocer, have four children, and they, too, felt a backlash. Their 12-year-old daughter, Mary, came home from school one day in tears, sobbing that her sixth-grade classmates had surrounded her in the school hallway and taunted her by saying her mother would soon be sleeping with black men. Brian, the Elliotts' oldest son, got beaten up at school, and Jane called the ringleader's mother. "Your son got what he deserved," the woman said. When Sarah, the Elliotts' oldest daughter, went to the girls' bathroom in junior high, she came out of a stall to see a message scrawled in red lipstick on the mirror: "Nigger lover."

In 1968, Elliott discussed the experiment with Johnny Carson on the "Tonight Show," prompting some outrage. "How dare you," one viewer wrote.

CHARLOTTE BUTTON / JANE ELLIOTT COLLECTION

Elliott is nothing if not stubborn. She would conduct the exercise for the nine more years she taught the third grade, and the next eight years she taught seventh and eighth graders before giving up teaching in Riceville, in 1985, largely to conduct the eye-color exercise for groups outside the school. In 1970, she demonstrated it for educators at a White House Conference on Children and Youth. ABC broadcast a documentary about her work. She has led training sessions at General Electric, Exxon, AT&T, IBM and other corporations, and has lectured to the IRS, the U.S. Navy, the U.S. Department of Education and the Postal Service. She has spoken at more than 350 colleges and universities. She has appeared on the "Oprah Winfrey Show" five times.

THE FOURTH OF FIVE CHILDREN, Elliott was born on her family's farm in Riceville in 1933, and was delivered by her Irish-American father himself. She was 10 before the farmhouse had running water and electricity. She attended a one-room rural schoolhouse. Today, at 72, Elliott, who has short white hair, a penetrating gaze and no-nonsense demeanor, shows no signs of slowing. She and Darald split their time between a converted schoolhouse in Osage, Iowa, a town 18 miles from Riceville, and a home near Riverside, California.

Elliott's friends and family say she's tenacious, and has always had a reformer's zeal. "She was an excellent school teacher, but she has a way about her," says 90-year-old Riceville native Patricia Bodenham, who has known Elliott since Jane was a baby. "She stirs people up."

Vision and tenacity may get results, but they don't always endear a person to her neighbors. "Mention two words—Jane Elliott—and you get a flood of emotions from people," says Jim Cross, the *Riceville Recorder*'s editor these days. "You can see the look on their faces. It brings up immediate anger and hatred."

When I met Elliott in 2003, she hadn't been back to Riceville in 12 years. We walked into the principal's office at Riceville Elementary School, Elliott's old haunt. The secretary on duty looked up, startled, as if she had just seen a ghost. "We want to see Room No. 10," Elliott said. It was typical of Elliott's blunt style—no "Good morning," no small talk.

The secretary said the south side of the building was closed, something about waxing the hallways. "We just want to peek in," I volunteered. "We'll just be a couple of minutes."

Absolutely not.

"This here is Jane Elliott," I said. "She taught in this school for 18 years."

"I know who *she* is."

We backed out. I was stunned. Elliott was not. "They can't forget me," she said, "and because of who they are, they can't forgive me."

We stopped on Woodlawn Avenue, and a woman in her mid-40s approached us on the sidewalk. "That you, Ms. Elliott?"

Jane shielded her eyes from the morning sun. "Malinda? Malinda Whisenhunt?"

"Ms. Elliott, how are you?"

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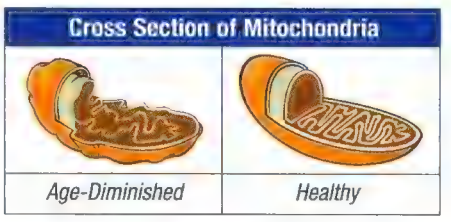

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The two hugged, and Whisenhunt had tears streaming down her cheeks. Now 45, she had been in Elliott's third-grade class in 1969. "Let me look at you," Elliott said. "You know, sweetheart, you haven't changed one bit. You've still got that same sweet smile. And you'll always have it."

"I've never forgotten the exercise," Whisenhunt volunteered. "It changed my life. Not a day goes by without me thinking about it, Ms. Elliott. When my grandchildren are old enough, I'd give anything if you'd try the exercise out on them. Would you? Could you?"

Tears formed in the corners of Elliott's eyes.

THE CORN GROWS SO FAST in northern Iowa—from seedling to seven-foot-high stalk in 12 weeks—that it crackles. In the early morning, dew and fog cover the acres of gently swaying stalks that surround Riceville the way water surrounds an island. The tallest structure in Riceville is the water tower. The nearest traffic light is 20 miles away. The Hangout Bar & Grill, the Riceville Pharmacy and A Touch of Dutch, a restaurant owned by Mennonites, line Main Street. In a grassy front yard down the block is a hand-lettered sign: "Glads for Sale, 3 for $1." Folks leave their cars unlocked, keys in the ignition. Locals say that drivers don't signal when they turn because everyone knows where everyone else is going.

Most Riceville residents seem to have an opinion of Elliott, whether or not they've met her. "It's the same thing over and over again," Cross says. "It's Riceville 30 years ago. Some people feel we can't move on when you have her out there hawking her 30-year-old experiment. It's the Jane Elliott machine."

Walt Gabelmann, 83, was Riceville's mayor for 18 years beginning in 1966. "She could get kids to do anything she wanted them to," he says of Elliott. "She got carried away by this possession she developed over human beings."

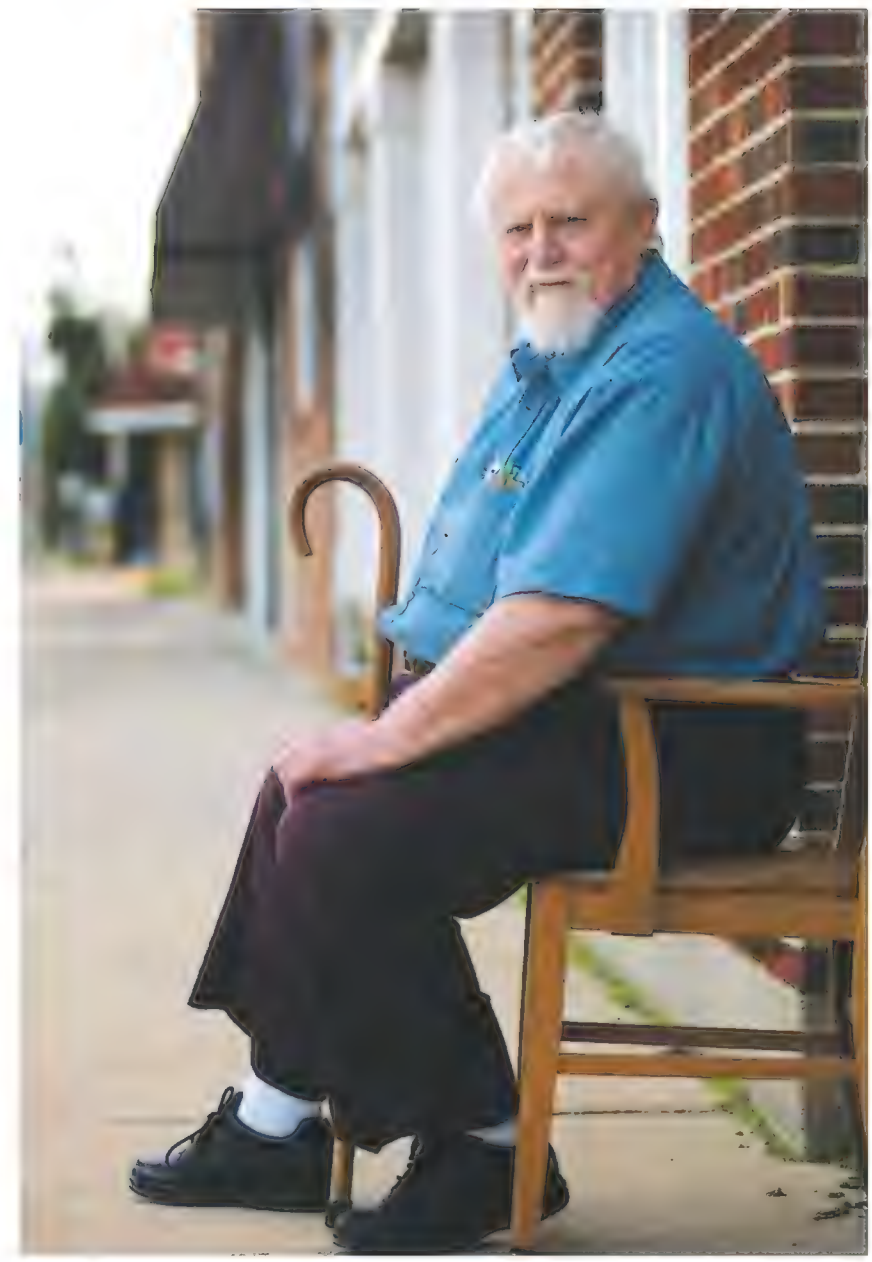
A former teacher, Ruth Setka, 79, said she was perhaps the only teacher who would still talk to Elliott. "I think third grade was too young for what she did. Junior high, maybe. Little children don't like uproar in the classroom. And what she did caused an uproar. Everyone's tired of her. I'm tired of hearing about her and her experiment and how everyone here is a racist. That's not true. Let's just move on."

Steve Harnack, 62, served as the elementary school principal beginning in 1977. "I don't think this community was ready for what she did," he said. "Maybe the way to sell the exercise would have been to invite the parents in, to talk about what she'd be doing. You must get the parents first."

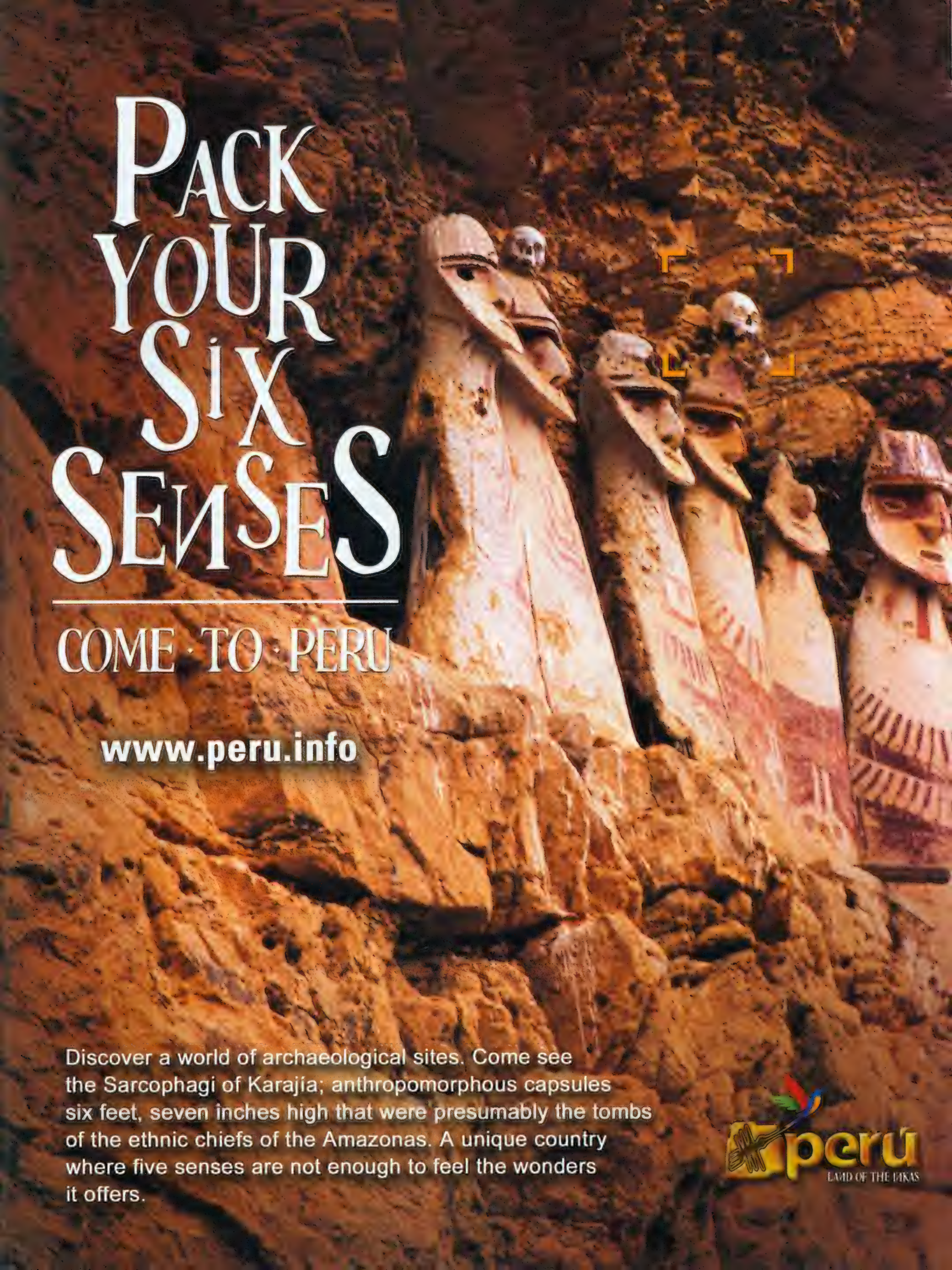
Dean Weaver, 70, superintendent of Riceville schools from 1972 to 1979, said, "She'd just go ahead and do things. She was a local girl and the other teachers were intimidated by her success. Jane would get invited to go to Timbuktu to give a speech. That got the other teachers angry."

FOR YEARS SCHOLARS have evaluated Elliott's exercise, seeking to determine if it reduces racial prejudice in participants or poses a psychological risk to them. The results are mixed. Two education professors in England, Ivor F. Goodson and Pat Sikes, suggest that Elliott's experiment was unethical because the participants weren't informed of its real purpose beforehand. Alan Charles Kors, a professor of history at the University of Pennsylvania, says Elliott's diversity training is "Orwellian" and singled her out as "the Torquemada of thought reform." Kors writes that Elliott's exercise taught "blood-guilt and self-contempt to whites," adding that "in her view, nothing has changed in America since the collapse of Reconstruction." In a similar vein, Linda Seebach, a conservative columnist for the *Rocky Mountain News*, wrote in 2004 that Elliott was a "disgrace" and described her exercise as "sadistic," adding, "You would think that any normal person would realize that she had done an evil thing. But not Elliott. She repeated the abuse with subsequent classes, and finally turned it into a fully commercial enterprise."

Others have praised Elliott's exercise. *In Building Moral Intelligence: The Seven Essential Virtues That Teach Kids to Do the Right Things*, educational psychologist Michele Borda says it "teaches our children to counter stereotypes before



"She was like a cult leader," says former mayor Walt Gabelmann (across from Riceville Town Hall) about Elliott. "Some of the old people wanted to tar-and-feather her."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THE KIDS TODAY

ACADEMICS DEBATE THE MERITS OF ELLIOTT'S EXERCISE, BUT WHO KNOWS BEST? HER NOW-GROWN STUDENTS GET THE LAST WORD

I tracked down more than 50 of Jane Elliott's former students, most of whom had participated in her eye-color exercise. I wanted to learn how the experience had affected them, if at all. Everyone who took part in it seemed to recall the exercise as though it had happened yesterday.

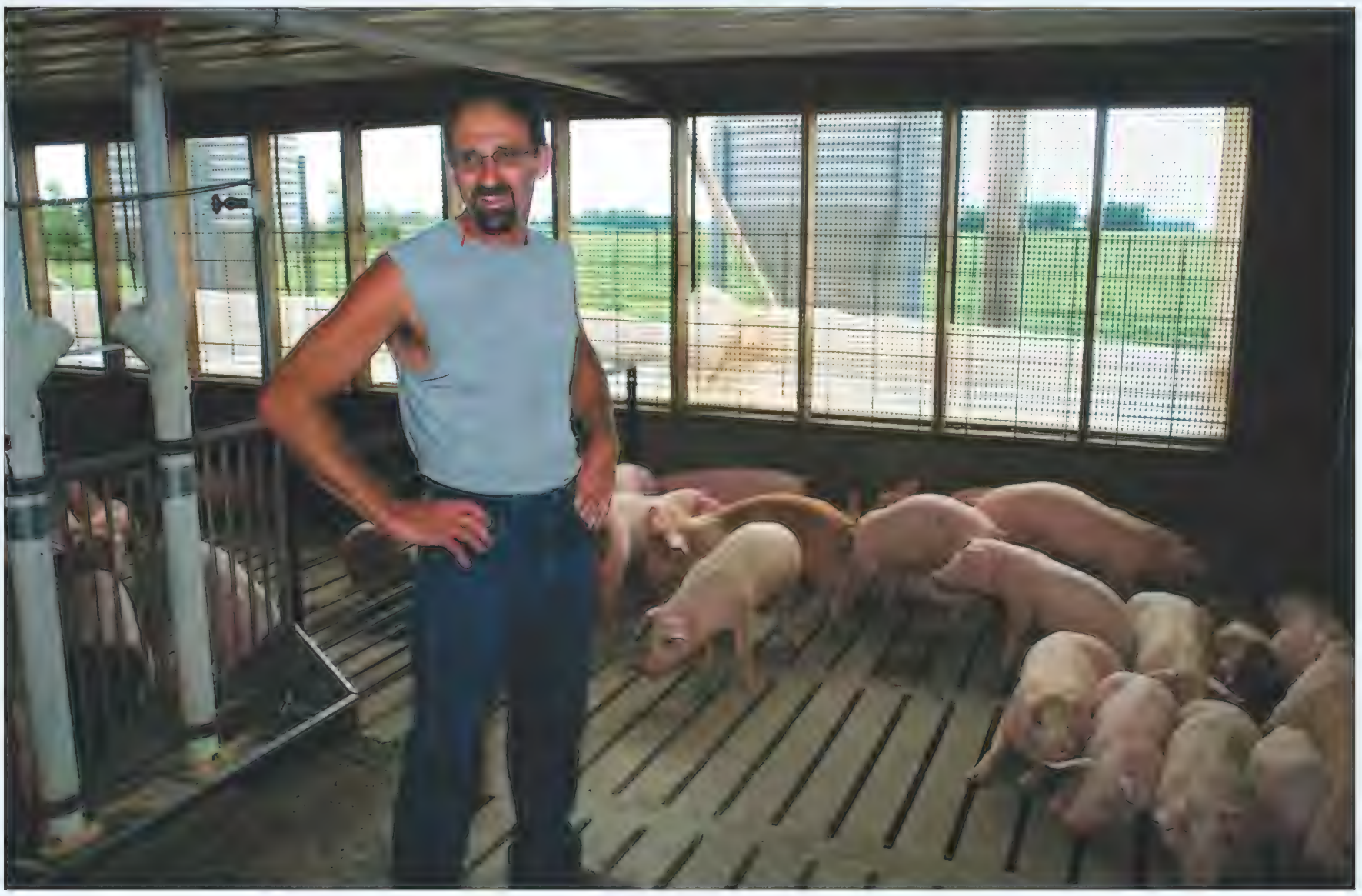
Dale McCarthy, 46, a third-generation farmer who was in Elliott's third-grade class in 1969, says he was 20 the first time he met a black person. "Without Jane Elliott, I might have been standoffish," he says. "It always has stuck in my mind not to be prejudiced, and that's because of Jane." Would he want his 15-year-old daughter to go through the exercise? "If [Elliott] humiliated my daughter as bad as she humiliated me, my wife would be on the phone to the principal and I'd be right behind her. You had a worthless feeling that day—but that's also what made such a lasting impression."

Julie Kleckner Baird, 46, who was in the first exercise back in 1968, says she has since strived never to be racist. In 2002, she spent three weeks in Tanzania as part of a women's study group conducted by her Lutheran church. Today Baird, a homemaker, is a vice-president of the Lutheran Church of America.

Another student in Elliott's first exercise was Debra Anderson Roth, 46, who's married to a Baptist youth minister in a low-income African-American community in Beloit, Wisconsin. "Ms. Elliott gave me a sense of compassion and fairness," Roth says. "When I see someone being treated differently than someone else, I remember what it felt like the day the brown-eyed people were [discriminated against]. We were created equal, and somewhere along the way people have forgotten that." Roth says she has volunteered in homeless centers, sent clothing to war-torn countries and helped raise money for underprivileged children. "As part of Ms. Elliott's experiment, I learned to treat others the way I wanted to be treated, and by helping children hopefully they will grow to help others. That's the way to change society."

A lot of Riceville residents stay close to home, and that goes for Penny Rickerl, 41, who still lives in the area on a third-generation farm. A student of Elliott's in 1972, she says the exercise pro-

"It always has stuck in my mind not to be prejudiced, and that's because of Jane," says Dale McCarthy (in his hog barn in Riceville), a student of Elliott's in 1969. Still, he says he wouldn't want his daughter to go through the exercise today.



Nearly all the former students the author contacted (Penny Rickerl at home in Leroy, Minnesota, with her daughter Emily) said they learned something important from Elliott's exercise those many years ago. But some said the lesson was too harsh.

"I consider it a privilege to have learned from her," says attorney Ray Hansen (above, at his law firm in Rochester, Minnesota, and, inset, as an object of discrimination in Elliott's 1969 class experiment).

foundly affected her: "I'm glad someone like Jane Elliott opened my eyes. You just didn't see different races here. The experiment stuck with me. You can't judge another person unless you've walked in his shoes. And I think it only could be done with young kids. Older kids have an attitude. But 8-year-olds love their teachers. They soak up whatever their teachers tell them."

"The experiment showed how it felt to be an outcast simply because I have brown eyes," recalls Kristine Isaacson Zunkel, 45, a quality control inspector who lives in Boone, Iowa. "In essence, I treat everyone the way I want to be treated. And it was Ms. Elliott who first fostered that sense in my mind."

Dallas resident Alan Moss, 46, was also in the first class to participate in the experiment. "Today some of my best friends are blacks," he says. "[Elliott] made me aware of what prejudice was about."

A third-grader under Elliott in 1969, Susan Ginder Kellaway, 44, who does window displays for JC Penney and lives near Fayetteville, North Carolina, discounts Elliott's detractors. "People can talk all they want about Ms. Elliott, but we lived through those two days, and we know how effective the exercise was," Kellaway says. "If she would have sugarcoated the exercise, it wouldn't have worked. The way she did it was the only way that it could have stayed with us for long."

One of the strongest statements supporting Elliott that I heard came from Ray Hansen, 44, an attorney in Rochester, Minnesota. "What Jane taught is woven into the fabric of my being," he says. "You cannot underestimate the impact that such an experience has had on us. I don't know how anyone who went through the experience can say that they have not been changed. Jane must get the credit she deserves for making the world a better place, and making us better human beings. The level of impact of the experiment is on the same magnitude as your first love, the first death of someone close to you, the birth of a child."

When I met Hansen in the law library of his firm, he recalled how profoundly the experiment changed him. During the exercise, he told me, "I delighted in the torment of my friends. It made me feel good and strong. I knew I could get away with whatever I wanted. At that age, you don't have a moral compass that tells you anything else. And then, back in the class, the blue-eyed kids outperformed the other kids. The blue-eyed kids had all the answers. And the brown-eyed kids just sat there, staring at the floor. All of a sudden, someone in charge says you're smart and says the other people aren't. And you know what? It made me soar."

Significantly, a number of Elliott's former students went on to become teachers, including Gretchen Eastman, 38, who works at a middle school in eastern Iowa. While she remains uneasy about Elliott's initial conducting of the experiment with such young children, she thinks the risk was worth taking. "I don't know if third graders have the emotional maturity to understand the deeper meaning of the exercise. Kids in that grade are very trusting, and you have to be careful not to abuse that trust. The experiment was rough. You feel the pain of someone who is picked on and put down."

Rex Kozak, 44, is the principal of East Marshall High School in Le Grand, Iowa. "For me the exercise wasn't about black and white, it was about a whole lot more. It showed how you should live," he says. Even so, Kozak says he would never try Elliott's experiment in his school. "The exercise gives students a sense of self-worth, but it does that by one day taking away other students' confidence."

A similar criticism was leveled by Jay McGovern, 40, who teaches special education in Lee's Summit, Missouri: "You ought to build upon kids' experiences and then you find ways to reflect on it. You don't berate people to try to make your point. If my daughter came home crying and said her teacher ridiculed her, I'd be angry. That's not what school's for, no matter how important the teacher thinks the exercise is." —*S.G.B.*

BLACK & WHITE PORTRAIT: CHARLOTTE BUTTON / JANE ELLIOTT COLLECTION

"It changed my life," Malinda Whisenhunt (with Elliott at the Riceville Community School) says of her role in the 1969 exercise. "Not a day goes by without me thinking about it."

they become full-fledged, lasting prejudices and to recognize that every human being has the right to be treated with respect." Amitai Etzioni, a sociologist at George Washington University, says the exercise helps develop character and empathy. And Stanford University psychologist Philip G. Zimbardo writes in his 1979 textbook, *Psychology and Life*, that Elliott's "remarkable" experiment tried to show "how easily prejudiced attitudes may be formed and how arbitrary and illogical they can be." Zimbardo—creator of the also controversial 1971 Stanford Prisoner Experiment, which was stopped after college student volunteers acting as "guards" humiliated students acting as "prisoners"—says Elliott's exercise is "more compelling than many done by professional psychologists."

ELLIOTT DEFENDS HER WORK as a mother defends her child. "You have to put the exercise in the context of the rest of the year. Yes, that day was tough. Yes, the children felt angry, hurt, betrayed. But they returned to a better place—unlike a child of color, who gets abused every day, and never has the ability to find him or herself in a nurturing classroom environment." As for the criticism that the exercise encourages children to distrust authority figures—the teacher lies, then recants the lies and maintains they were justified because of a greater good—she says she worked hard to rebuild her students' trust. The exercise is "an inoculation against racism," she says. "We give our children shots to inoculate them against polio and smallpox, to protect them against the realities in the future. There are risks to those inoculations, too, but we determine that those risks are worth taking."

Elliott says the role of a teacher is to enhance students' moral development. "That's what I tried to teach, and that's what drove the other teachers crazy. School ought to be about developing character, but most teachers won't touch that with a ten-foot pole."

Elliott and I were sitting at her dining room table. The smell of the crops and loam and topsoil and manure wafted though the open door. Outside, rows of corn stretched to the horizon. "There's a sense of renewal here that I've never seen anywhere else," Elliott says.

It occurs to me that for a teacher, the arrival of new students at the start of each school year has a lot in common with the return of crops each summer.

Elliott continues, "Just when you think that the fertile soil can sprout no more, another season comes round, and you see another year of bountiful crops, tall and straight. It makes you proud."

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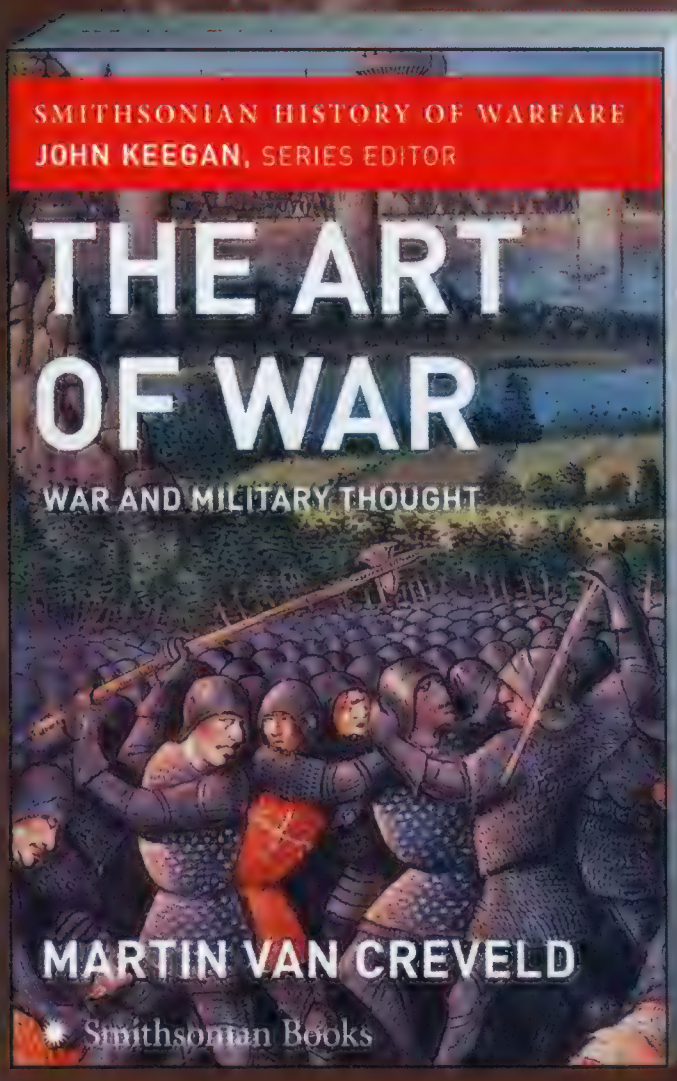

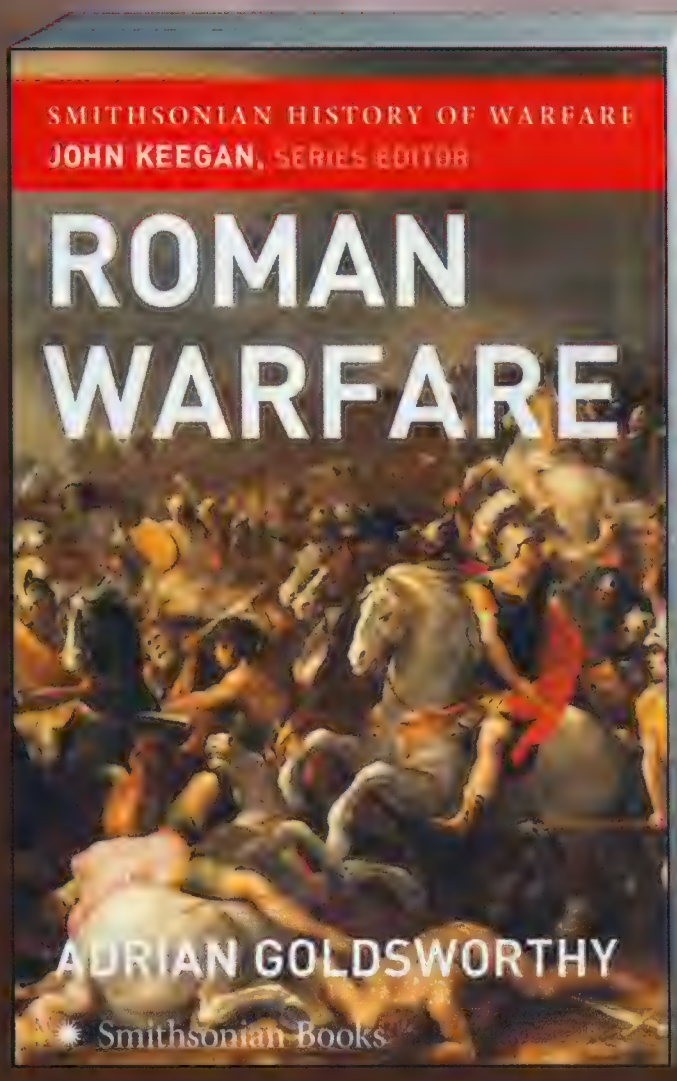

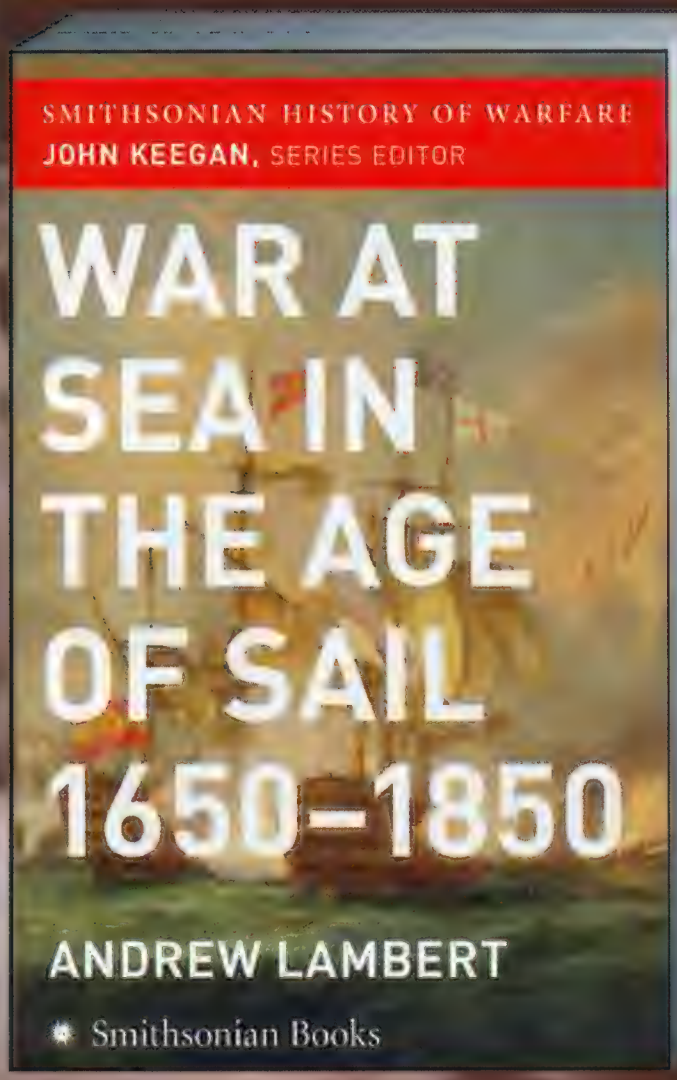
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Louis Armstrong before he was Satchmo?
A youthful Ella? For photographs of musicians
great or obscure, just about everyone turns to Frank Driggs,

JAZZ MAN

BY JERRY ADLER

There's a certain way jazz musicians from the 1930s pose for photographs, half-turned to face the camera, symmetrically arrayed around the bandleader, who can be identified by his regal smile and proximity to the microphone. Publicity stills of the period were the equivalent of English court paintings, hackwork intended to exalt their subjects and attract admiration to their finery. Bandleaders even took titles borrowed from the aristocracy: Duke Ellington, Count Basie, Earl Hines . . . well, Earl was actually the man's given name, but he lived up to it in a way no tracksuited rap star could approach, no matter how big the diamond in his earlobe. There's a picture of Hines with his band on the stage at the Pearl Theater in Philadelphia, exuding swank. Their suit pants, which bear stripes of black satin down the seams, break perfectly over their gleaming shoes; their jacket lapels have the span of a Madagascar fruit bat; their hair is slicked. They were on top of their world. The year was 1932, and about one in four Americans were out of work.

If Frank Driggs could go back in time and choose his year of birth, he would pick 1890, so he would have been in his prime during the swing era, which he defines as roughly from the 1920s until its slow postwar

"He was an incredible piano player, the most fantastic in jazz," Frank Driggs (left, in his office in New York City) says of Earl Hines (at the microphone with his band in Philadelphia in 1932). The photo is one of more than 78,000 in Driggs' $1.5 million collection.

P. 94 THEO WESTENBERGER

decline into bebop and modernism. He was around for the very end of that era as a young man in New York City, and much of his life since then has been devoted to recapturing the spirit of those times, for which a stack of recordings as tall as a man is necessary but not sufficient. The missing element is supplied by photographs, of which Driggs may be the world's leading collector. In his office on the ground floor of an 1827 town house in Lower Manhattan are eight mismatched filing cabinets, holding folders crammed with trumpeters, trombonists and clarinet players, the four registers of saxophone players, stride piano players, scat singers, percussionists and slap-bassists. These were the bands who made music for Decca and Victor, who played Roseland and Birdland, the Savoy and the Cotton Club, the Blue Note, the Blue Room and the Black Cat. Last year he found someone to count them, and the total came to something over 78,000, including 585 of Count Basie, 692 of Benny Goodman, 1,083 of Louis Armstrong and 1,545 of Duke Ellington, which Driggs considers proportionate to Ellington's stature. Pull out a drawer at random and Patti Page is followed by Charlie Parker, Cole Porter and Bud Powell, interspersed with the likes of Benny Peyton, a drummer whose four-decade career rates but one paragraph in the 1,300-page *New Grove Dictionary of Jazz*. "Who would know who Benny Peyton is?" muses Driggs, a dry, understated man of 75. One cabinet over, Duke Ellington's great collaborator Billy Strayhorn goes in front of Barbra Streisand. "As well he should," Driggs mutters.

The stories Driggs tells about the pictures put you in mind of the Jazz Age writer William Bolitho's description of the saxophone, endlessly sorrowful yet endlessly unsentimental: spare lists of bands and recordings and tours, ending, most often, in obscurity. The forgotten Peyton played all over Europe and South America in the 1920s and led his own combo. He toured the Soviet Union with Sidney Bechet, the great clarinet player. "You couldn't live like that today," Driggs observes, lamenting the sharp decline in glamour attached to jazz musicians. A rock musician might approximate that kind of life, but he would have to listen to his own music, which Driggs considers an unbearable price to pay.

Another picture: Peyton's contemporary, the alto sax player Rudy Jackson, who played with Duke Ellington, which for a sideman is like having been one of the guys manning the oars the day Jesus came aboard. But sometime after the recording of "East St. Louis Toodle-oo" in 1927, Ellington replaced Jackson with the (comparatively) better-known Barney Bigard, and Jackson went off to tour India and Ceylon for the better part of a decade. "A lot of those bands went to India between the wars," Driggs says. Moral: "Bands stayed together for a few months, then they'd run out of bookings and break up."

He reaches into a folder and extracts a photograph of a group called the John Kirby Sextet, which had a brief heyday in the late 1930s. The *Grove* dictionary notes their recording in 1938 of a song called "Rehearsin' for a Nervous Breakdown." The picture Driggs holds is from 1940, when the sextet appeared at the Pump Room of Chicago's Ambassador Hotel in blindingly white formal wear, shoes and grins. No shadow of a crease or pucker mars the perfect contours of their dinner jackets. Yet before the decade was out, Kirby would be playing bass and leading no-name pickup trios at a restaurant in Milwaukee. A few years after that, he would be dead at 44; of the six men in the 1940 photograph, only two lived past their 50s. Driggs fishes up a murky print of Kirby in his decline that looks as if the photographer had shot through a cloud of cigarette smoke. "That's the nature of the music business," Driggs says. "It's good for a while, and then it's sh-t."

That wisdom sounds hard-won, but in fact Driggs himself earned a perfectly good living from the music business for most of his life. His secret was to avoid becoming a musician. Growing up in a small town in Vermont, where his family managed a resort hotel, and later in the New York suburbs, he listened to jazz on the radio. He learned the trumpet by playing along with recordings, a hobby he still pursues, sometimes while sitting in his car waiting for a parking spot to open on

Driggs focuses on jazz's prewar heyday (the segregated Cotton Club in Midtown Manhattan in 1937, after it moved from Harlem). "What class," he says of the once-renowned John Kirby band (with Kirby on bass, in Chicago in 1940).

ALL HISTORIC PHOTOGRAPHS: FRANK DRIGGS COLLECTION

Brooklyn resident JERRY ADLER *is a senior writer at* Newsweek *and author of* High Rise. *This is his first article for* SMITHSONIAN.

The greatest jazz composer and bandleader, Duke Ellington (top left, in New York in 1936) tops Driggs' collection, with 1,545 photographs. Louis Armstrong (at about 26 c. 1927) "was showing the world what jazz was all about," Driggs says. Count Basie (in 1952) "was shy," Driggs recalls. "He talked like he played, quiet, spare."

BOTTOM: POPSE RANDOLPH / FRANK DRIGGS COLLECTION

his block. After graduating from Princeton in 1952 he became a regular at theaters and clubs and ballrooms from Greenwich Village to Harlem, "before they all closed and became bowling alleys." He was an NBC page, then a record producer for RCA Victor and Columbia, specializing in rereleases of classic 78s. Along the way he built up his collection of memorabilia and photographs, mostly publicity stills and amateur snapshots by friends and acquaintances. Since 1977, he has made most of his living off reproduction fees from the collection, which was recently appraised at $1.5 million. Almost any jazz reference book published in recent years has relied on it, as did the Ken Burns documentary series on jazz. The course of Driggs' life was determined by his inability to read music, which kept him from playing professionally. He got to know a lot of famous musicians, but, he says, "I didn't drink enough to hang out with them." Mostly he was a family man who went home at the end of the day, or at least before the end of the night, to his wife and four stepchildren in Brooklyn.

The musicians led uncertain, peripatetic lives, as an afternoon browsing Driggs' archive proves. The white-suited piano player in the John Kirby Sextet was Billy Kyle, who had been with the Mills Blue Rhythm Band (not to be confused with the Mills Brothers) in 1937. Joe Garland played saxophone with the Mills band, and Edgar Hayes played piano. By 1938 Hayes had formed his own group, taking Garland with him. Driggs has a photograph of them touring Stockholm in matching overcoats and fedoras. Also in that picture was trombonist Clyde Bernhardt, who can be seen in a picture from 1943, at the Ubangi Club in New York, with the horn player Cecil Scott, who shows up with his nine sidemen in a 1929 picture of Cecil Scott's Bright Boys. *That* picture includes trombonist Dicky Wells, who in 1937 was photographed at the Apollo playing with Teddy Hill's band, whose saxophone player was Russel Procope, who three years later shows up back where we started, with the John Kirby Sextet. Sooner or later, everyone played with everyone else, because they either quit for more money or got fired for asking for more money or woke up someplace strange and missed the train to the next date. It's all in the pictures.

Not just the pictures, though; a lot of it is in Driggs' head, which is why he hopes to find an institution to buy the collection, relieving him of running the business as well as providing support for the necessary cataloging and conservation work. The photographs and recordings will survive, but Driggs is of the last generation with firsthand memories of these groups. For that matter, they were past their prime even by the time he got to hear them. "When I heard Teddy

The "Stardust"-fueled Edgar Hayes band hit Stockholm in 1938 (pianist Hayes is seventh from right). Opposite, Benny Goodman leads his troupe in a battle of the bands against Chick Webb, New York, 1937. "Webb won," Driggs says.

Driggs has found some of his rare pictures (singer Ella Fitzgerald at age 20 in 1937 with drummer Chick Webb's band in New York) at flea markets.

Wilson 35 years ago, he was nothing like he was back in the 1930s and '40s," Driggs says. "By then he was supporting three or four ex-wives and just going through the motions." Things haven't gotten any better, in Driggs' view. In the handful of clubs that even New York City can sustain, the white guys play Dixieland and the black musicians want to emulate Miles Davis or John Coltrane, an ambition that baffles Driggs, whose recollection of Coltrane is succinct: "He'd play a 40-minute solo at the Apollo and the audience would walk out." (Driggs does, however, possess around 100 photographs of Davis, and half that many of Coltrane.) In all of New York City today there are exactly two groups that meet Driggs' standards. On Tuesday nights, he goes out with his lady friend Joan Peyser (author of an acclaimed biography of Leonard Bernstein) to a place in Midtown Manhattan to hear Vince Giordano and His Nighthawks, a big band in the classic style. On Monday nights, they go to a club in Chelsea, where they listen to Kevin Dorn and His Jazz Collective, a sextet that plays instrumental and vocal standards from the '20s and '30s. Dorn is a personable young drummer, and his group includes some talented musicians. Driggs thinks they could dress with a little more class—they mostly wear sports jackets over open-necked shirts, the occasional fedora or newsboy cap—though he recognizes the impracticality of expecting them to keep a dinner jacket given what they're probably paid.

But as they launch into "Exactly Like You" or "When Dreams Come True," if you close your eyes and conjure up the smell of smoldering tobacco and spilled bourbon drying on the tablecloth, you might imagine yourself back at the Famous Door hearing Benny Morton and Walter Page swap solos, with a guy on drums who played with a guy who played with Ellington.

A sideman puts down his horn and sings "When I Take My Sugar to Tea" in careful measures, uncannily evoking the reedy tones of an early 78. The saxophonist launches into his eight-bar apotheosis, the high-hat does its stutter-step, and Driggs and Peyser hold hands through "East of the Sun, West of the Moon." They sit in the front, close to the bandstand, and as long as they don't look behind them, they can ignore the fact that hardly anyone else is in the room.

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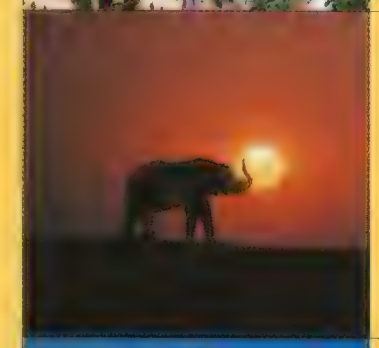

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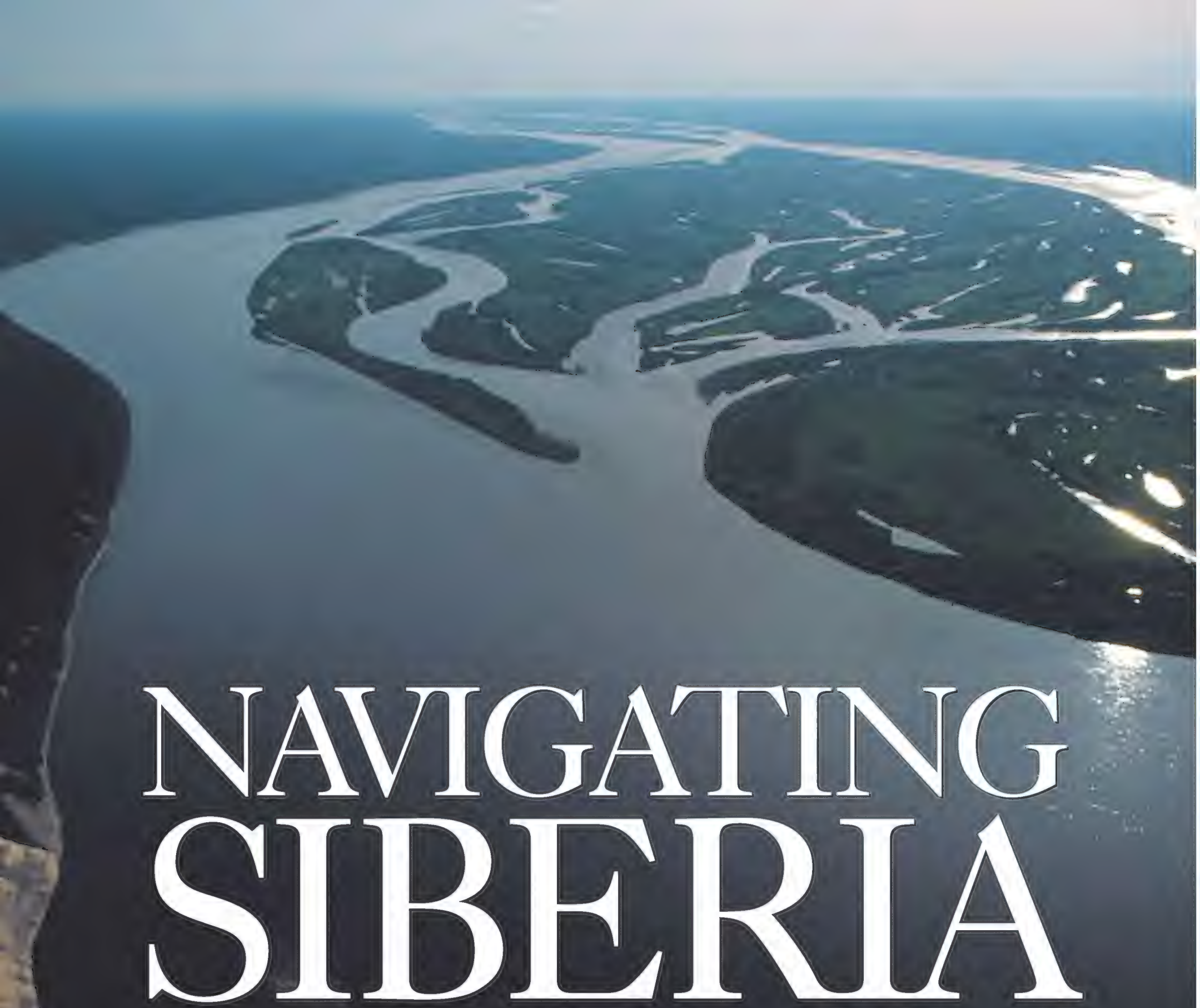

NAVIGATING SIBERIA

A 2,300-mile boat trip down the Lena River, one of the last great unspoiled waterways, is a journey into Russia's dark past—and perhaps its future as well

TEXT AND PHOTOGRAPHS BY JEFFREY TAYLER

WE SHOVED OFF under the weeping sky of a late June dawn, the frost-scarred concrete tenements of Ust-Kut looming, unlikely spectators for the start of an expedition down Russia's most pristine major river. Here, at least, the Lena River, which flows northward into Siberia, resembled less a primordial waterway than the aqueous graveyard of Russian civilization. It is both, of course. Russia's expansion beyond the Ural Mountains, a move crucial to its rise as a global power, depended on the Lena to annex a wilderness so inhospitable that few at first would move there readily, or even voluntarily.

In czarist and Soviet Russia, the Lena served as a watery highway into an icebound hell of forced labor and exile, shackles and grief. Vladimir Lenin (né Ulyanov) may have confected his nom de guerre from the river's name, in honor of revolutionaries like Trotsky who did hard time along its remote shores. Yet the Bolshevik coup that Lenin led in 1917 ushered in the river's most tragic era, when Joseph Stalin dispatched millions to hard labor and death in Siberia. Countless barges carried inmates from Ust-Kut—once the Soviet Union's busiest inland port—to prison settlements on the river's banks.

A trip down the Lena would be a very rare adventure as well as a novel approach to Russia's ties to its gulag past. Since coming to power in 2000, and especially following his reelection last year, President Vladimir Putin has reinforced executive authority, reasserted Kremlin control over recalcitrant regions, strangled the press and selectively persecuted oligarchs. To this day, Russians are a predominantly rural, small-town people, and to understand how Putin has managed to reverse a democratic momentum dating from Gorbachev's perestroika of the 1980s, it's revealing to look not to Moscow and St. Petersburg, where a Western-oriented elite has pushed for liberal reform, but to the hinterland, where Putin enjoys his strongest support.

From the Baikal Mountains more than 2,600 miles east of Moscow, the Lena flows through the taiga (mostly coniferous forest) of the Siberian Plateau into the boggy lowlands and tundra of the Sakha Republic to empty, 2,700 miles later, into the stormy Laptev Sea, within the Arctic Circle. A few hundred miles from the river's mouth lies one of the world's coldest inhabited places—Verkhoyansk, where temperatures have plunged to minus 96 degrees Fahrenheit. The tenth-longest river in the world, the Lena is the only major Russian waterway flowing unimpeded by dams or hydroelectric stations. Its waters are clean enough to drink untreated. Along its shores dwell brown bear and wolves, moose and caribou. It is Russia's river wild, and I had long wanted to sail it.

TO TRAVEL from Ust-Kut, where my 2,300-mile journey began, is no simple thing. Moscow and the government of the Sakha Republic (in Russian, Yakutia), a semiautonomous region within greater Siberia, have reimposed restrictions on foreigners' access to much of the area. I sought help from the polar adventurer Dmitry Shparo, who wrestled permits for my journey from the Sakha authorities, the Federal Security Service (the successor to the KGB), the Border Guards, and the Foreign Ministry. Dmitry also found me a guide, a 37-year-old Muscovite named Vadim Alekseyev. Beefy, with a pig-iron grip and a piercing gaze, Vadim spends six months a year adventuring in the Russian far North, enduring of his own volition the foul meteorological stew of blizzard, ice, rain and wind that Stalin's victims suffered as punishment.

We would travel in a 17- by 5-foot inflatable raft built to Vadim's specifications. Half of our 1,430-pound load would consist of fuel for its four-horsepower motor. Vadim carried a double-barreled shotgun, kept loaded. "You never know who or what might step out of the taiga uninvited," he said.

On the late June day we set out, the weather was balmy, in the low 70s. Cutting a V through panes of liquid pewter

Under Joseph Stalin, the Lena River (opposite, near Yakutsk) was one route to Siberia's gulags (above), where millions died. The author met people who wanted more freedom as well as many who approved of Soviet-style repression and Kremlin crackdowns.

RUE DES ARCHIVES / GRANGER COLLECTION, NEW YORK; P. 102 RANDALL HYMAN

speckled with raindrops, we moved with the Lena into fog-shrouded woods and hills. Soon we were gliding atop burbling currents dappled with the turquoise of the sky, the green of firs, and the rippling zebra serrations of birches. That evening, as I set up my tent on the riverbank, Vadim lit a fire and cooked a dinner of oats and canned meat, preceded by a clove of garlic as a prophylactic. I was spellbound by the beauty of the taiga—the largest contiguous forest on earth, a primeval preserve here dominated by Siberian fir and Erman's birch and several species of spruce. Vadim wasn't moved. "This isn't the North yet," he said dismissively.

IN THE 1550S, Czar Ivan the Terrible of Muscovy crushed Muslim Tatars west of the Urals, spurring Russian expansion into Asia. The Cossack leader Yermak Timofeevich defeated the ruler of Sibir (Siberia) in 1581, whereafter the Russians began to absorb lands farther east. Lured by rumors of forests abounding in priceless furs (mostly sable and ermine) along a great river, a Cossack named Panteley Pyanda first reached the Lena in the 1620s. The Cossacks, from the steppes south of Russia, raised revenues for the sovereign in the form of a levy in furs, which they imposed on the sparse indigenous peoples, the semi-nomadic Evenks and Yakuts.

Opening up Siberia, the Cossacks hastened Russia's transformation from a middle-sized European country into a Eurasian superpower covering one-sixth of the earth's land surface. Siberia was eventually to yield resources far more precious than furs, including gold, diamonds, uranium and, most important nowadays, natural gas and oil. In Siberia lie the bulk of Russia's 72 billion barrels of proven petroleum reserve (the seventh-largest on earth) and 27 percent of the world's natural gas. Oil alone accounts for 45 percent of Russia's export revenues, and finances 20 percent of its economy. Only Saudi Arabia pumps more crude.

It was in 1683 that Cossacks founded Kirensk, about 180 miles downstream from Ust-Kut, as an *ostrog*, or stockaded town. When we arrived, five days out, the morning sun was showering glare over the town's shacklike shops and low wooden houses, mostly green or blue hovels sinking crookedly into the earth. Vadim deposited me on an antique dock. White poplar seed puffs drifted through the hot air, adding a dreamy languor to the scene disturbed only by groupings of groggy beggars in the doorways, their faces swollen pink from alcohol.

Ivan Pokhabov, a pallid, 27-year-old manager in a cash-register repair firm, and his technician, 22-year-old Pavel Ostrovsky, showed me the town (pop. 15,700). Our first stop was a site that made Kirensk briefly infamous in the last days of Soviet rule: the ruins of a two-story brick building. We entered and climbed carefully down a derelict staircase, into a basement strewn with spent beer and vodka bottles. The building had once been the Kirensk headquarters of the Stalin era's secret police, predecessor of the KGB. In 1991, the corpses of more than 80 people were uncovered in the basement. They'd been executed around 1938 for alleged "counterrevolutionary" activity—a common accusation in the Terror. "I watched them bring the corpses out of the basement," Ostrovsky said.

Olga Kuleshova, director of the Kirensk Re-

The author's guide, Vadim Alekseyev (above, preparing to shove off from Ust-Kut), packed pepper vodka and a loaded shotgun. In Kirensk, a building (right) used in Stalin's time by the secret police was a reminder of atrocities under the dictator. (The numbers on the photographs are keyed to map, p. 105.)

The world's tenth longest river, the Lena flows north some 2,700 miles through resource-rich eastern Siberia, where summer high temperatures and winter lows can differ by almost 200 degrees. The area is also home to the largest contiguous forest on earth.

gional Museum, said one of her uncles, the head of a local collective farm who was denounced in an anonymous letter to the secret police, numbered among the exhumed. "The executed were our best minds, the light of our nation, the cultured people among us," Kuleshova said. "There were rumors that others, who were never found, were put on barges and drowned."

I had heard many such stories during 11 years in Russia, but I was becoming alarmed by the indifference that many displayed toward atrocities in Stalin's day. To me, the befouled basement execution site showed what little importance people attached to the state-sponsored murders. Could anything like Soviet-era purges repeat themselves now? "Oh, all that could never happen again," Ivan said. "We have our freedoms now. Everything is permitted."

A few days later, downriver in the village of Petropavlovsk, Leonid Kholin, a bespectacled collector of historical artifacts for local museums, expressed a different view. "Look, like everyone else, I cried in 1953 when Stalin died. Those who remember Stalin remember the order, the discipline. We hoped Putin might establish the same. But no. As things stand, we have no government, no real courts, nothing. We call our government for help and get no answer." What about the bloody crimes dominating Stalin's rule? "It's better to serve in a battalion with discipline, right?" he said. "Look,

JEFFREY TAYLER's most recent book is Angry Wind: Through Muslim Black Africa by Truck, Bus, Boat, and Camel.

MIKE REAGAN

we're half-Asiatic, half-European. We need to maintain our traditions, and for that we need a strong leader. We need discipline." From Kirensk to the Arctic I would hear Putin faulted, if at all, for not dealing harshly enough with his unruly populace.

IN A CLEARING on a spruce-covered mountainside, Vadim and I spotted a guard tower with a Soviet flag flying above it. Nearby, a 30-foot-high portrait of Lenin—painted in red and white in the stark style of socialist realism—glowered down at us from a two-story concrete barracks. A young man with a shaved head, wearing a blue prison uniform, came running down the bank toward us, waving. He shook our hands and welcomed us to Zolotoy, a correctional labor settlement. Out from the barracks marched a line of ten inmates, tanned and healthy-looking. "Oh, roll call!" he exclaimed, and trotted off to join them.

An officer in khaki emerged from a cabin, peered at us through binoculars and motioned to us to approach. He ran the camp, he said, and the inmates served their sentences logging in the forests. "They don't look very dangerous," I said. "Are they petty criminals?"

"Oh, they all robbed someone or beat up people," he said. "They're here for a good reason."

Zolotoy, he said, had once been a logging settlement, but the saw mill had died with perestroika, and the remaining villagers, now mostly pensioners, lived in the derelict huts up on the bank. The inmates helped the villagers with chores. What about the Soviet flag? I asked. "Excuse me, but what's wrong with the Soviet flag?" the officer said. "It's always pleasant to see it. It reminds of how things were before all that crap with perestroika began and killed this village." As we walked back to the boat, he talked disdainfully about political reforms, yet spoke of the beauty of being posted out in these wilds. He shook our hands and saw us off.

THE SAKHA REPUBLIC covers 1.86 million square miles—a harsh territory roughly equivalent in size to Western Europe—and accounts for a sixth of Russia's landmass. Barely a million people live there. Forty percent of it lies within the Arctic Circle, and permafrost hinders agriculture and construction. Summers are brief but surprisingly hot: it can reach 105 degrees. Nowhere on earth do temperatures throughout the year vary so widely: almost 200 degrees.

In the Lena's delta alone live 36 species of fish, many of them Salmonidae, including the giant and elusive taimen, trout that reach six feet in length and can weigh more than 150 pounds. Vadim would catch, most of all, okun, lenok and succulent nelma, frying what we could eat the first day and smoking the rest in a blackened tin box he brought for that purpose.

As we journeyed into the heat of Sakha's larch-and-alder lowlands, the fish grew more plentiful—and so did horseflies almost an inch long, with bulbous eyes and a quarter-inch-long proboscis. From our departure around ten in the morning till we pitched camp at eight in the evening, flies circled us relentlessly. Their stab was painful. Worse still were the midges—clouds of tiny gnats. Slapping at them left our arms and faces streaked with blood. These biting insects have played their role in Siberia's history, deterring escapees from the gulags. "In Old Russia," Vadim said, "people were put to death by being tied to a tree, naked. The bugs would suck all the blood out of them."

Sakha's 700,000 rivers and streams and 708,000 lakes ensure no scarcity of breeding grounds for the pests. We chose

Vadim (top, right, with the author in camp) caught okun and lenok (center), smoking those he didn't fry. "The best fish I ever tasted," Tayler says. Near Yakutsk (above), Alina Kozhurova, a schoolteacher, and her aunt, Yekaterina, run a makeshift restaurant serving vegetables from their garden.

The only way to escape bites was to stand in the acrid smoke of our campfire.

our campsites carefully. The rare spot of grassy shore meant mosquitoes (of which I counted three varieties); the commoner pebbly banks, midges. Larch and birch forests sheltered an abundance of man-eaters, whereas pine groves, scented with tangy sap, seemed anathema to all manner of insects. I found the only sure way to escape bites was to stand in the acrid plume of campfire smoke, red-eyed and coughing; Vadim didn't shave or bathe. "The Yakuts of the taiga don't bathe," he said. "Traditional peoples know that skin with clogged pores doesn't attract bugs."

Some 700 miles and three weeks out of Ust-Kut, with temperatures falling, we pulled up to Nyuya, a tidy village on a sandy bank. The villagers' square jaws and long faces suggest something other than Slavic or aboriginal origins. Nyuya's houses, when built in Siberian style (squat and of dark larch), sported windows of polished glass hung with bright yellow-and-green curtains. No trash littered the dirt lanes. In fact, Germans built most of Nyuya after the Stalin regime exiled them in 1941 from their homeland along the Volga, the German Autonomous Republic, an ethnic entity established during the early Soviet years.

Spiritual practices in the Sakha Republic include orthodox Christianity (right, a church in Yakutsk) and the indigenous people's animism. Buildings under construction in the capital city rest on concrete piers (below) driven into the permafrost.

I sipped tea in the kitchen of Sophia and Jakob Deisling, who were in their mid-70s. Their cheerful daughter Anna served tomatoes and cucumbers from their garden. Sophia recalled how, in 1941, Soviet troops loaded her and everyone else in her village in the Volga aboard cattle trains. Thus began a yearlong odyssey that took them through Kazakhstan to Ust-Kut and, by barge, up the Lena. The authorities conscripted her father and all the other young and middle-aged men into the Labor Army. Her mother fell ill, a brother died en route and a sister died of malnutrition. In September 1942, the barge deposited the survivors at Nyuya; they were given axes and ordered to cut the forest. "We were little girls and children and old people," Sophia said. "How could we saw down trees! But they told us to meet the timber quota or they'd take away our rations—just 400 grams of bread a day!"

Exiled Finns and Lithuanians soon joined them. They might all have perished had not a new director, named Kul, been assigned to oversee their labor; he had the men do the heaviest labor to ease the exiles' plight, Sophia says. She expressed gratitude for Kul and the Sakha government, which compensates Stalin's victims with free electricity, firewood and a pension. "May God grant peace to those who called us fascists!" she said, magnanimously, of her torturers.

The German Autonomous Republic was not restored after World War II, and the exiles had to put heated sand in their boots or lose their feet to frostbite, Jakob told me. Still, he seemed to hold no grudges. "Who could we attack?" he said. "The bosses here were just following orders. We all worked together to fulfill the plan!" He paused. "I have preserved my Catholic faith. I pray that God forgive Lenin and Stalin. I know this: I can't enter heaven with enmity in my heart. We must forgive those who harm us." As the Russian national anthem came on the radio, his eyes filled with tears.

TO PART WITH all notions of freedom, hope, control over one's destiny—that is nullifying. After returning from such encounters, I tried to share my incredulity with Vadim. He answered with venom. Russians were a "herd" that could "only be ruled by force," he would say, and Stalin had largely got it right. "I'm more worried about how we're killing off our wildlife than about how people suffer," he told me. "As long as the government doesn't bother me, I really don't care."

Once we passed Olekminsk and were nearing our trip's halfway point, the Lena changed from a swift stream 400 or 500 yards wide into an island-studded watercourse five or six miles across, littered with shoals on which we ran aground. Rainstorms arose suddenly. For five long days I bailed as Vadim, wrapped grimly in his poncho, swung us left and right between angry foaming swells.

The taiga shrank from majestic and dense to sparse and runty, prefiguring the desolating spread of tundra. Yard-high

ALFRED KUEPPERS; RANDALL HYMAN

sand dunes appeared on the shore, lending parts of the riverscape a bizarre Saharan aspect. The soothing, bi-tonal *ha-hoo*! of the cuckoo bird all but vanished; the Siberian chipmunks dwindled in number, and so did the hawks that hunted them. If once a brown bear had come grunting to our camp at dawn to tear up an anthill, and a golden-furred Arctic fox, ears perked, had watched us pack our boat, now our only regular companions were the lonely Sabine gull or croaking raven or cheeping sandpiper. The constant light, at two in the morning as bright as an overcast winter noon, hindered sleep. Yet Vadim and I welcomed the changes. The sun no longer burned, and frequent cold snaps put the mosquitoes out of commission for hours at a stretch. We were sailing through Vadim's North, and I found it mournfully enchanting.

Almost a month after leaving Ust-Kut, and some 300 miles from the Arctic Circle, we spotted dock cranes, nine-story apartment buildings, ancient log cabins sinking into the permafrost—this was Yakutsk, capital of Sakha, home to 200,000 people. The Turkic Yakuts, who migrated to Sakha from Central Asia in the 12th century, number only about 320,000—tiny numbers indeed, given the area's vastness, but Russia has always suffered from underpopulation.

My Yakut guide, a 20-something schoolteacher named Tatiana Osipova, was light-complexioned, with narrow eyes and a languid air. She was anything but languid, however. She took me to the National Art Museum of the Sakha Republic, where a Yakut painter, Timofey Stepanov, was exhibiting his work, all of it awash with canary yellows, electric blues and flaming reds. His canvases feature Yakut gods and mythical beasts, princesses and knights on stout horses—figures from the Yakuts' shamanistic religion, Ayi. His renditions recalled illustrations for children's books—fantastic and lurid and unbelievable. "Our scenery is so gray, but here you see how much color we have inside us," Tatiana said.

The atheism taught in Soviet times is still more common than faith, professions of which, in my experience, usually stemmed from other convictions, like nationalism. As it did with her. "We're one of the most educated minorities in Russia," she went on. "We take top prizes in national scholastic competitions. Not bad for a people that until just recently lived in *balagany*," or crude log dwellings. "We protest on the streets in minus 50 degree weather when Moscow tries to take away our rights. We're not some people at the end of the earth. We've showed the world who we are, and we want our sovereignty. And faith in our religion, Ayi, is good. It's the basis of our character. Our national struggle continues!" From Tatiana I heard spirited complaints about Kremlin policies for the first time on my trip. It would also be the last.

WE SAILED OUT OF Yakutsk into merciless wilds. To the west spread the Central Yakutian Plain, an infinity of low, silver-green alders and sandy bog; along the eastern bank, the snow-dappled Verkhoyansk Mountains reigned over scraggly taiga; above choppy waters to the north churned gunmetal clouds and whirling skeins of fog. The temperature dropped into the 30s, and a cold head wind raised the surf on a river now nine or ten miles across. Day after day, for ten hours at a stretch, we crashed through breakers that at times forced us ashore. When it seemed nothing could get worse, the clouds emptied their burdens of frigid rain.

Vadim kept his cold blue eyes locked on the horizon. Landing, we would jump out and struggle to haul the boat ashore. Vadim would grab his bottle of red-pepper-flavored vodka and shove it into my benumbed hands. "Drink a drop, quick! To warm up!" I did, and it worked. We then would set

7

6

Within the Arctic Circle (left, near Zhigansk), the Lena widens and the thinning forest yields to tundra. A historian might have been describing the guide Vadim (above) when he wrote that the Cossacks who explored Siberia in the 17th century were "always hardy, steadfast, and courageous."

"Just look at the black rings under people's eyes, which are frostbite scars."

up camp. Possibly trying to console me, Vadim said that this summer was freakishly cold. We had feasted on red and black currants before Yakutsk and expected to find them here, along with mushrooms, but there were none—grave omens. "It will be a hungry year," Vadim pronounced. "Many animals will starve. There will be a lot of *shatuny*," or bears that, having failed to eat enough to hibernate, wander the winter woods, at times attacking villagers.

Only a lone soaring black-headed Brent goose or occasional raven broke our sense of solitude. It was late July, and the larch's tufty leaves were yellowing.

ON AUGUST 1, we crossed the Arctic Circle. Hours later we spotted Zhigansk—a crescent of gray, wind-battered shacks on a high curving bank. The next evening I found myself shockingly comfortable, sitting with Yuri Shamayev, the Yakut mayor of this village of 3,500 people, mostly Yakuts and Evenks. With high cheeks and intelligent eyes, Shamayev, dressed in loafers, a wool sweater and pressed chinos, looked like he might have been pledging a conservative fraternity in the United States. He lived in what from the outside looked like a condemnable concrete hovel, but inside it was warm and clean, with a refrigerator, a Japanese television and polished wood furniture. His wife made us cucumber and tomato salad seasoned with sour cream, and spread out sausage and salted fish for our delectation. We sipped beer, a luxury.

In the name of their sovereigns, armed Cossack bands had ruthlessly exploited the Sakha region, collecting the fur tax but also demanding "gifts" for themselves—as much as five times the number of furs the state required—or taking women hostage if their men couldn't or wouldn't pay. Russian merchants scoured the land for mammoth tusks; in 1821 alone, one merchant exported 20,000 tons. The Soviets forced the semi-nomadic peoples into settlements, which accustomed them to village life and undermined their survival skills.

Atop a hill in Tit-Ary, the wind-ravaged graves (left) of Finns and Lithuanians exiled under Stalin in the 1940s serve as a desolate memorial both to past crimes and present-day neglect. Parts of Tiksi (above), a once-closed military port on the Lena River delta, the Arctic's largest, are collapsing.

"Our mentality is Soviet," Shamayev says. "Since we live in extreme conditions—just look at the black rings under people's eyes here, which are scars from frostbite—we expect the state to help us and give us privileges. But there are too many incentives"—educational institutes, high technology, and the like, available through Moscow, for the Sakha Republic to want out of Russia. "Our patriotism is left over from Soviet days, and keeps us together."

I told him I had heard otherwise on previous trips to Sakha. "OK, ten years ago we wanted to separate, but not now. We're a strategically vital region of Russia. We have too many diamonds, too much timber, coal, and even oil, for them to let us go." He went on. "Even though we're descended from Genghis Khan, we're not a hotblooded mountain people like the Chechens, who love war. Besides, we're too few to fight like the Chechens."

IN OUR LAST THREE WEEKS on the Lena, we forced our way through storm after storm, heading north toward Tiksi. Now the taiga gave way entirely to tundra, carpeted in lichen and moss; stony mountains arose on both banks, overflown now and then by golden eagles. As we approached the delta, strong winds prompted us to stop at Tit-Ary, a near-

ly deserted village of gray shacks and wrecked fishing boats.

I spotted crosses atop a sandy hillock, a monument to Finns and Lithuanians interred there—more of Stalin's victims. A plaque at the base of the tallest cross read: "TORN BY VIOLENCE FROM THEIR NATIVE LAND, FALLEN, BUT NOT FORGOTTEN." The wind had blown away the sand to expose the coffins. There was something telling in their exposure. Here and there across Russia, monuments have been erected to the crimes of the Soviet era, but they are ill-tended and appear insignificant besides the poverty and neglect of the hinterland.

I hurried back to our boat. We would skirt the delta's eastern banks, where mountains rose sheer and stony from the water's edge, to enter the churning Laptev Sea. By then I had grown to admire Vadim. We had quarreled at times. But no matter how high the waves, he never slackened in spirit. He turned desolate riverbanks into comfortable campsites. Nikolai Nikitin, the prominent Russian historian, might have had him in mind when he described Siberia's Cossack

Russia's "river of destiny" (midnight near Zhigansk), the Lena remains largely wild, unimpeded by dams or power stations.

pioneers as "harsh, merciless, but always hardy, steadfast, and courageous, hesitating neither before the boundless Siberian expanses nor its inhospitable weather nor its thousand unknown but unavoidable dangers." Vadim embodied the frontier spirit that allowed Russia to expand across 11 time zones and turned the country into a superpower (if now only a former one). Vadim told me he admired strength and strongmen most of all—whether good or evil—and had no faith in democracy taking hold in his country. His powerful presence reminded me that, ever since the Cossacks first ventured onto the Lena and made Siberia Russian, the rest of the world had had to take notice.

SEVEN WEEKS after departing Ust-Kut, with snowcapped black mountains to the south and a gray sea roiling to the north, we saw, on a ridge, the boxy concrete barracks of Tiksi's military base. A frigid rain began to fall. An hour later, we pulled up beneath a blue shack and a beached barge in Tiksi harbor. An army truck stood against the stormy sky, by the shack. We stepped onto the gravel shore and congratulated each other with a handshake. I felt strangely empty. Vadim disdained the comfort that Tiksi's one hotel would offer and set up his tent onshore. I grabbed my pack and took out my permits, which the military in this closed settlement would surely want to see, and hiked up to the truck that would take me to Tiksi proper.

Like a vision from a gulag survivor's nightmare, Tiksi's wind-battered tenements and lopsided larch huts stood bleak and lonely under a bank of fog. Slogans painted in ten-foot red letters (GLORY TO LABOR! CHILDREN ARE OUR FUTURE! BLOOM, MY BELOVED YAKUTIA!) covered the weather-worn facades of the hilly center, reminding me that this town of a few thousand souls, mostly Russian military and state functionaries, used to be a bustling Soviet port, as well as one of the USSR's most secretive places. Tiksi's population—about 12,000 in Soviet times—enjoyed high pay and privileges for tours of duty that included two months of polar night and 120 days of gale-force winds a year. Now most of the remaining 6,000 or so Tiksians seem stranded.

I and my two hosts, Tamara (a manager at Tiksi's port) and Olga (a sailor and cook), went to the settlement's one bar-restaurant, an unmarked yellow shack. "What the hell do you want?" shouted the doorwoman, a hefty troll with a bristly mop of peroxided hair. "Why didn't you let us know in advance you were coming!"

"Is that any way to treat customers?" replied Olga. "Why not just save your breath and slop manure on us instead!"

"Yeah!" chimed in Tamara. "We don't have to patronize your establishment!"

"Then don't!" The troll slammed the door.

In fact, we had no choice, so we forced our way in, and mounted the stairs to a cavernous bar. The troll flicked on red, green and white Christmas lights strung around the walls. A glum aproned barwoman took our orders. Tamara and Olga spoke of their glorious Soviet past. "We felt like such pioneers out here! The state used to supply us with only the priciest delicacies!" said Tamara. "We knew only luxury! Our husbands used to fly to Moscow just to have a beer!"

The bar filled with a somber crowd in jeans and black leather jackets: delicate Yakut women, pale and high cheekboned, and young men, Russians and Yakuts, mostly sloshed and stumbling. As I tucked into my steak and fries, the troll actually smiled. The Lena's harsh wilderness receded from my consciousness, and I felt delivered.

A week later, Vadim and I boarded a plane for the flight to Moscow, six time zones back. We flew over mountainous tundra, then a carpet of forest laced with silver rivers. It would take us nine hours to fly across Siberia—terrain the Cossacks had annexed to Russia over the course of a century. For good or ill, their exploit affects us still.

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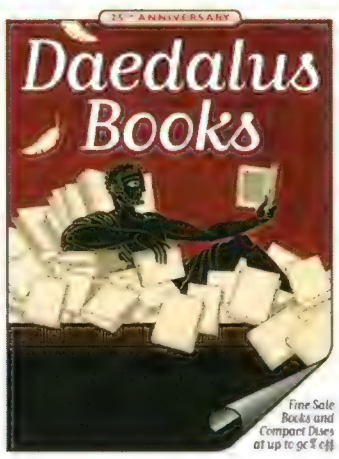

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ON NOT NAMING NAMES

THE REPORTER WAS GIVEN A CHOICE: IDENTIFY HIS CONFIDENTIAL SOURCES OR GO TO JAIL. HE CHOSE JAIL **BY MYRON FARBER**

"I like to think I could have withstood much more than the 40 days I served," says Farber, of his life behind bars in Hackensack, New Jersey, during a 1978 murder trial.

THE STORY that would send me to jail for refusing to name confidential sources 27 years ago began with a letter: three typewritten pages that would not only change my life and the lives of others but also lead to a blistering clash between the First and Sixth Amendments of the U.S. Constitution. When the case ended, three years later, it had become a story about a reporter as much as it was a reporter's story—different from the one that sent *New York Times* reporter Judith Miller to jail for refusing to name a source this July, but in important ways the same.

In June 1975, when the letter arrived at the *New York Times* newsroom, I was a 37-year-old reporter there. An editor named Mike Levitas handed it to me. The letter was from a woman who had something very chilling to say: she had heard that the chief surgeon at a hospital had murdered 30 to 40 patients a decade earlier.

Her letter didn't name the surgeon, or the hospital. There were no clues to where this had happened, if indeed it had. But like Levitas, who had met the letter writer and didn't think she was a crank, I knew this story had to be pursued, even without her cooperation. My first job was to identify the hospital. The letter suggested that drugs might have killed the patients, so I contacted sources in the world of forensic toxicology. Fortunately, one remembered having been consulted about a "suspicious" case like this at Riverdell, a private hospital in Bergen County, New Jersey.

Over the next half year, I roamed North Jersey and other parts of the country, trying to piece together what had happened in 1965 and 1966 at the hospital (which had since closed); trying to find people who knew about the case; and trying to persuade those who were reluctant to talk to me to do so, in confidence if necessary. Ultimately, my confidential sources would provide information that was vital to getting stories about the deaths into print.

The chief surgeon at the time of the deaths, I learned, had been Mario E. Jascalevich, who had been born and raised in Argentina and trained in America. He seemed never to lose patients after surgery, but the postoperative mortality rate of a surgeon new to Riverdell was soaring. The new surgeon couldn't understand it until he, and then equally puzzled doctor-directors at the hospital, opened Jascalevich's locker on October 31, 1966. Strewn about it were 18 mostly empty vials of the alkaloid d-tubocurarine—better known as curare—and syringes, one of which was filled with fluid. Properly used, curare relaxes breathing muscles during surgery; administered without artificial respiration, it can be lethal. Shaken by the sight, Riverdell's directors took an unusual step for doctors—they went to the county prosecutor, Guy Calissi.

GILLES PERESS / MAGNUM PHOTOS

By the time I was poking around, Calissi had become a judge in Hackensack, the Bergen County seat. His successor as prosecutor, Joseph Woodcock, was only vaguely aware of the Riverdell investigation, and when I met him in 1975, I feigned only passing interest in it—in connection, I said, with another case I was looking at. But I was panting to see the case files.

Woodcock had them brought out of storage, and I was shown into a room with a two-way mirrored wall. I assumed I was being watched. When I finished reading the files, I agreed with a remark Calissi had made in November 1966, after questioning Riverdell's directors and Jascalevich: "Somebody is lying." And after I located Jascalevich's 1966 deposition—it was missing from the files, but a lawyer friend of one of the directors had kept a copy—I was even more certain that Calissi was right. And that it mattered.

CALISSI'S INVESTIGATION had been conducted largely by his chief assistant, Fred Galda, who by 1975 had also become a judge. The investigation had lasted only a few weeks and was never put before a grand jury—or reported in the newspapers. When I caught up with Calissi at home, he said, "We had many suspicions" that Riverdell patients had been murdered, but "no hard evidence." When I said Galda had told me that medical experts judged the deaths to be "plausible," Calissi scoffed. "That's horsesh-t," he said. "There was something to that goddamn case, I'll tell you that."

Using names and addresses—many of them out of date—from the 1966 file, I pored over phone books, leaned on officials for death certificates, called on funeral homes and appealed to the Social Security Administration to forward my letters seeking interviews with people who might have something relevant to say. I reached out to scientists and pharmaceutical companies for arcana about muscle relaxants. Doors were slammed in my face, and telephones were slammed down in my ear. The worst moments, of course,

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I did not surrender everything in my desk, but I turned over some material.

In another dispute between the government and the press, reporter Judith Miller, jailed in July for refusing to reveal a source, says she was "not above the law."

were when I had to tell people that the death of a parent or child, awful as it may have been at the time, was actually believed to have been suspicious. No one had ever told them that.

My efforts to speak with Jascalevich came to naught. He had resigned from Riverdell after the investigation but continued to practice in New Jersey. I sent him registered letters, but all I got were the return receipts. I phoned his office, but got only his secretary. I sat in front of his office in bitter cold and waited in vain for him to appear. In his confused and confusing deposition in 1966, he had said he used the curare in experiments on "dying dogs" at a medical school in Jersey City and had brought the used vials back to the hospital, miles away in Oradell, for record-keeping.

I tried everything to nail this down, hunting from Jersey City to a dusty hamlet in South Carolina, where a former dog attendant from whom Jascalevich said he had gotten the animals was then living. But I could find no one who had given any dogs to Jascalevich.

The *Times* published my first articles about the case in January 1976, identifying Jascalevich only as Dr. X to protect the privacy of someone who had not been charged with any crime. It was big news. The wire services picked it up, and the leading local paper, the *Record*, assigned 13 reporters to the story. By then Prosecutor Woodcock had decided—for reasons of his own—to reopen the case. He began by exhuming the bodies of five Riverdell patients who had not been given curare during surgery. Within months his experts, using newly developed techniques in multiple laboratories, reported finding curare in three of the bodies; the tests on one body were inconclusive, and the last corpse was too deteriorated for testing.

Jascalevich—whose name had be-

GERALD HERBERT / AP / WIDE WORLD PHOTOS

come public during the investigation—was indicted on five counts of murder. I moved on to other stories.

When the trial began, in February 1978, the surgeon's attorney, Raymond A. Brown, subpoenaed me for oral testimony and moved to bar me from either covering or observing the trial on the grounds that I would be a witness and was not "above the law." Judge William J. Arnold asked Brown what kind of evidence he expected me to give, and Brown refused to tell him. "I will not do it," he said. ". . . I will not tell you or any living man anything about [Jascalevich's] defense."

Arnold ruled that I would have to testify. "The rights of the press under the First Amendment," he wrote, "can never exceed the [Sixth Amendment] rights of a defendant to a fair and impartial trial."

Brown then went further: he served me with the broadest subpoena ever issued to an American reporter, demanding all notes of interviews, memoranda, pictures, recordings and "other writings" relating to a list of 193 potential witnesses in the case. Everything, Brown said, was crucial for the defense—"I want to see it all."

I answered the subpoena. In my testimony, in May and September 1978, I sought to be reasonable, answering the great majority of Brown's questions about what I had done and seen. I did not surrender everything in my desk, as Brown wanted, but I turned over some material, most of which the defense already had. I refused, however, to disclose confidential sources. For that, the *Times* was fined $100,000 as a criminal penalty, plus $5,000 for each day I continued to refuse. I, too, was held in civil and criminal contempt of court. I was remanded to the Bergen County Main Jail, to serve until I provided everything, including my confidential sources, or until the trial was over—plus six months on the criminal contempt charges. It looked like I might be there a year or more.

Seeking a hearing on Brown's subpoena, we appealed up the line to the U.S. Supreme Court, which declined to take our case-within-a-case. Mean-

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[The jurors] said my role in the case played no part in their thinking.

DENNIS COOK / AP / WIDE WORLD PHOTOS

Time Inc.'s Pearlstine (left), testifying with Cooper in July, turned over files.

while, I was in and out of jail several times for a total of 40 days between July and October 1978. By the end of it, strangers recognized me on the street. "Aren't you the man who said no?" I was asked.

THE MAIN JAIL was a 68-year-old fortress that an investigative commission had declared unfit for human habitation. Shortly before I arrived, an inmate had hanged himself with his sheets. During my first days inside, I was inundated with supportive mail. A sixth grader in Iowa asked to borrow my notes for a school paper. A woman in Los Angeles said she had named her puppy Farber. The town of Farber, Missouri, was making me an honorary citizen. But as the days and nights wore on, in brutal heat, I grew ever more weary . . . even a little stir-crazy.

I was allowed to have books and a typewriter and to walk my cellblock, but there was no yard for exercise or air. The food was everything prison food is reputed to be. Some guards were friendly, even respectful of my stand; others were hostile. One guard, convinced the jail was haunted by the ghost of an inmate who had hanged himself two years earlier, would flick on the lights when he patrolled at night, waking everyone.

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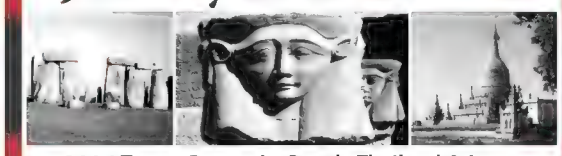

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I was invited to join a trusties' gin rummy game that with different players, must have been going on for decades. But with a few exceptions, my fellow inmates were not the company I would otherwise have kept, though almost all claimed that they'd been framed. In the cell next to mine was a landscaper charged with beating his mother to death; he banged continually on our common wall. Across the corridor, a German tourist charged with sodomy was regularly taunted by other inmates. Above me, a shouter would deliberately overflow his toilet, causing water to pour onto our floor.

The mood at the *Times* was also glum, less because of the judicial pressure than because of a general newspaper strike in New York that had begun on August 6, 1978, and would continue after Jascalevich's trial ended, on October 24—then one of the longest proceedings for a single criminal defendant in U.S. history.

The accused never testified. Brown, Jascalevich's attorney, argued that he had been framed, first by jealous and incompetent Riverdell doctors in 1966, and again a decade later by the prosecutor, medical experts and me. As for the curare in the liver (and, it appeared, lung, muscle tissue, urinary tract and eye) of a 4-year-old who had been recovering from the removal of intra-abdominal cysts—Brown said it had gotten there "by accident or design" after the child's body was exhumed.

The jurors, without reviewing any of the 395 exhibits or testimony by 76 witnesses, took two hours to return a verdict of not guilty. Some of them said they were not convinced that curare could remain in embalmed bodies for a decade and concluded that the patients had died of natural causes. They said my role in the case played no part in their thinking.

On that day, though, what mattered most to me was that I was released, the court having suspended the criminal contempt charge with Jascalevich's acquittal. I was free to go, and I was glad to go. I like to think I could have withstood much more than the 40 days I

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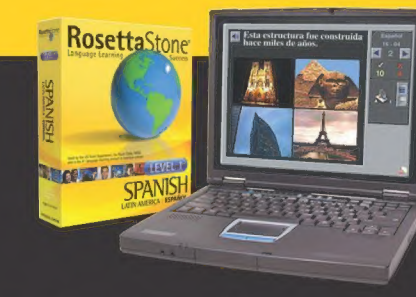

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IN 1980, after examining cases at other hospitals, the New Jersey Board of Medical Examiners found Jascalevich guilty of "gross malpractice or gross neglect and lack of good moral character" and revoked his license to practice medicine. He returned to Argentina, where he died of a cerebral hemorrhage in 1984 at age 57.

In 1982, Gov. Brendan T. Byrne of New Jersey pardoned the *Times* and me of our convictions for criminal contempt and returned $101,000 of the $286,000 the *Times* had paid in fines. Our purpose, Byrne said, had not been "to insult or frustrate the judicial process, but to stand on a noble, if sometimes imperfect, principle."

This ordeal came back to me, of course, in July when Norman Pearlstine, editor in chief of Time Inc., turned over to the government *Time* magazine reporter Matthew Cooper's confidential notes in a case involving the exposure of a CIA agent, Valerie Plame, after the Supreme Court had declined to hear *Time*'s appeal. At that point, Pearlstine told reporters, he concluded that "we are not above the law and we have to behave the way ordinary citizens do." He also said he would have given up the *Times*' information in 1978.

I'm thankful that back then Pearlstine wasn't at the *Times*, where executive editor A. M. Rosenthal and publisher A. O. Sulzberger were as stalwart defenders of the First Amendment, and of their ink-stained wretches, as could be found in any newsroom. Sulzberger made a public statement of unequivocal support. And Rosenthal, who was profoundly concerned about a tremendous increase in subpoenas of reporters in the 1970s, told me not to give a moment's thought to the fines the newspaper was paying. "Every penny the *Times* has ever made, it has made because of the First Amendment," he said. "And if we have to, we'll spend every last penny for the First Amendment."

I believe I did the right thing in going to jail in 1978—for my own self-respect,

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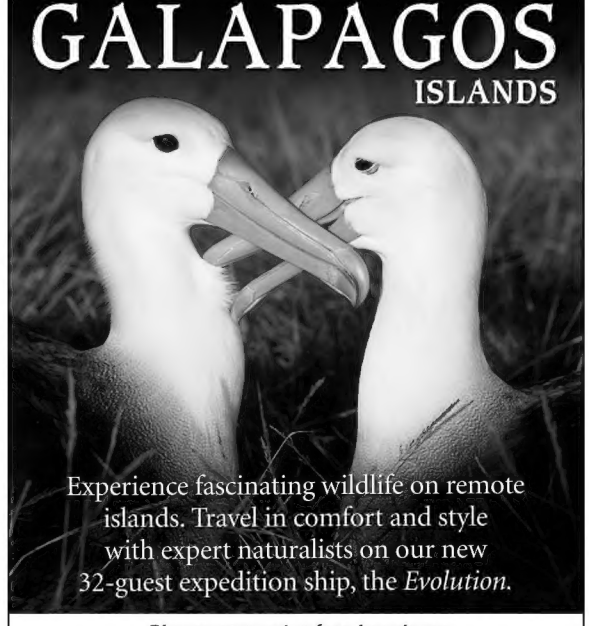

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for the finest traditions of the press and, most critically, for the public interest, which is best served when reporters are free to do their best work. I say this humbly. When I was a boy, I read a biography of Joe DiMaggio called *Lucky to Be a Yankee*. That's the way I felt: lucky to be a reporter for the *New York Times*. I worked hard to meet its standards, and I'm happy to be judged by the stories I wrote for the paper—on Riverdell or any other subject. It was inevitable that I would have to take information in confidence occasionally. Every experienced journalist knows that's the way it is, and that without such sources many stories could not be told, or told as well. Are there abuses by reporters? Sure, just as there are lapses in any human endeavor. They should be aired, and they can be minimized.

But having lived the life, I'm not willing to join the current chorus of press bashers. There's good reason why virtually every state today provides some protection for reporters, just as they and the federal judiciary accord testimonial privileges to spouses, lawyers, doctors, priests and others.

My case prompted a strengthening of the New Jersey shield law for journalists, and in 1980, the state Supreme Court held 6 to 1 that the Sixth Amendment could not override that law simply "upon a defendant's unsubstantiated assertion" that a reporter's information could help him. "To a confidential source, to all confidential sources," Chief Justice Robert N. Wilentz wrote, "the promise of silence is absolute, and *any* breach is a total one."

I hope the day will come when Congress enacts a federal shield law for journalists and the Supreme Court, almost evenly split in 1972, revisits the issue of reporters' testimony. Until then I cast my lot with Judith Miller—who, because she was willing to go to jail for what she considered her professional obligations in the public interest, is not above the law.

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GEEK TO ME

HOW I LEARNED TO STOP FRETTING
AND LOVE A COMPUTER NERD **BY EVE KRAKOW**

I HAD BEEN GOING OUT WITH HIM for about four days. It was summer, and we were lying on a blanket in the park, shaded by the whispering leaves of a tall maple. I was trying to remember the age of a mutual friend.

Without saying a word, he sat up and pulled out a tiny zip-lock bag from his backpack. From it, he extracted a square of paper and unfolded it until it turned into an 8 1/2 x 11 sheet containing—in 6-point print—the addresses, phone numbers and birth dates of all his friends and acquaintances.

What kind of alien life-form was I dealing with? He had thick eyeglasses and mad-scientist hair. He wore T-shirts commemorating computer conferences. He used CD-ROMs as coffee-table coasters, and his china cabinet housed electronic gear.

I knew he was a computer programmer, a self-proclaimed "geek." But I had counted on there being some self-mocking irony in his proclamation.

Instead, he was the kind of guy who opens the door for you and offers to carry your bag. He was attentive, ready to take you home as soon as you showed signs of tiring. And he could write e-mails with a humorous edge. Plus, behind those thick lenses he had large blue eyes.

When he asked me out—for coffee, then for dinner, then for dancing—I could not quite say no.

I came to understand that he didn't mean to be socially inept; he was just on a perpetual quest for efficiency. He wrote his grocery list on the back of debit-card slips. He named items in the shortest possible form. Sometimes it was "tom," for tomatoes. Once I stood looking at the list on his refrigerator, trying to figure out what "zalm" was.

"Oh, that's 'salmon' in Dutch," he explained.

He had a huge music collection, which he had meticulously converted into MP3s and sorted into categories on his computer. But I couldn't figure out how to access his music because, of course, he didn't use Windows; he used Linux.

When my birthday rolled around, he secretly e-mailed my friends and relatives to ask if they wanted to chip in to buy me an LCD screen for my office computer. He suggested a PayPal account. (My parents preferred to drive over and hand him a check.)

At some point—I can't say when—I began to use double digits to program the microwave (33 seconds, 99 seconds—so much faster!). I organized my storage closet, adopting his system of labeling each box with a letter and keeping a list on the computer of what each contained. I even found myself perusing one of his favorite Web sites, the one with the motto, "News for Nerds."

Soon I concluded that resistance was futile. I moved in with him that fall, only to discover that living together meant . . . sharing all his toys. I could borrow his laptop and sit in the backyard, writing e-mail via our wireless connection. We could sit in bed and watch DVDs on his laptop's deluxe 16.1-inch screen. Once, we went to a cheap motel and cozied up with old episodes of "Fawlty Towers."

There were practical advantages too. He offered personalized tech support, 24/7. He provided free Web service, thanks to the server in the living room. And he could combine all the leftovers in the fridge into a scrumptious meal. Most of the time.

He was always open to trying things, whether it was a camping trip, a new restaurant or a classical music concert. And he always seemed to be able to put what I was feeling into just a few concise, efficient words.

Six months after our first date, we were sitting at a Spanish restaurant. He took my hand, shyly, and blurted out, "I made a New Year's resolution that I would ask you to marry me, and I see no reason to wait any longer." It was January 4.

I agreed that we would send out the invitations by e-mail. He agreed to wear clean socks for the occasion. The following September, we wed.

And now, every morning I get up and face one fact: I married a geek. I made my choice, and I've never been happier. Now if only I could find some teacups to go with those CD-ROM coasters.

EVE KRAKOW is a freelance writer who lives in Montreal. She is still trying to learn the Linux operating system.

ALLEN BREWER